A MEMORANDUM

DATE: May 29, 2025

TO: Academic Deans Council

FROM: Dr. Andy Perkins
UCCC Chair

RE: Change Notice 10

Listed below are curriculum change proposals which have been recommended by the University Committee Courses and Curricula. Under current procedure, members of the Academic Deans Council may question the approval of these proposals at any time prior to 5:00 p.m. on June 12, 2025 by contacting Dr. Andy Perkins (5-0004) or the office of the Vice President for Academic Affairs (5-3742). If no questions have been raised, the proposals will be considered approved automatically.

1. Course Proposals by college/school

ARCHITECTURE ART AND DESIGN

Technical Change	BCS 1133	**Approved**	**FROM: BCS 1133 Construction Drafting** (Prerequisites: MA 1323 or ACT Math sub-score 26). Three hours lecture. Introduction to graphic communication and construction drawing and modeling**.** **TO: BCS 1133 Construction Drawings** (Prerequisites: MA 1323 or ACT Math sub-score 26). Three hours lecture. Reading technical drawings, 2D/3D visualization, and manual drafting techniques. 30 Char: Construction Drawings Effective: Fall 2025
Technical Change	BCS 1143	**Approved**	**FROM: BCS 1143 Introduction to the Built Environment** Three hours lecture. This course is an introduction to construction materials and methods, construction drawing, building systems, and professional thinking. **TO: BCS 1143 Introduction to the Built Environment** Three hours lecture. Introduction to the construction industry, including methods, practices, trends, careers, and key stakeholders in the design and construction process, with orientation to essential elements of professional practice. Effective: Fall 2025
Technical Change	BCS 2123	**Approved**	**FROM: BCS 2123 Construction Materials and Methods** (Prerequisite: BCS-1133 Construction Drafting) Three hours lecture. Introduction to construction materials and methods. **TO: BCS 2123 Construction Materials and Methods** (Prerequisite: BCS-1133 Construction Drawings) Three hours lecture. Introduction to Construction Materials and Methods, focusing on the properties, applications, and sustainability of materials commonly used in the construction industry. methods. Effective: Fall 2025

ARTS AND SCIENCES

Addition	BIO 3033	**Approved**	**BIO 3033 Introduction to Neuroscience** Three hours lecture. Introduction to the rudiments of neurobiology. Focus is on basic mechanisms of neuron conductance, transmission, intracellular signaling pathways and plasticity, plus a brief survey of human neuroanatomy, and sensory and cognitive neural systems. (Same as PSY 3033.) Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 261501

		30 Char: Introduction to Neuroscience Effective: Fall 2025
Addition BIO 4263	**Approved**	**BIO 4263 Wetland Plants and Sustainability** (Prerequisite: BIO 2113 and Junior standing). Three hours lecture. Overview of the biology of wetland plants and their adaptations for life in the aquatic environment, specifically focusing on ecological services provided by wetlands and wetland plants in the context of environmental sustainability. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 261304 30 Char: Wetl Plants and Sustainability Effective: Fall 2025
Addition GG 8113 +Meridian +Distance	**Approved**	**GG 8113 Isotope Geochemistry** (Prerequisite: CH 1223, or consent of instructor). Three hours lecture. This course is focused on isotope behavior in natural systems. It is designed for graduate students who are interested in applying geochemical methods in learning the elemental cycles between biosphere, hydrosphere, and lithosphere as well as formation of planetary bodies. Method of Instruction: C Method of Delivery: F & O Campus: 1, 2, & 5 CIP: 400602 30 Char: Isotope Geochemistry Effective: Fall 2025
Addition MA 4333/6333 +Distance	**Approved**	**MA 4333/6333 Statistics in Finance** (Pre-requisite: MA 2733, ST/MA 3123). Three hours lecture. This course aims to give an account of the main uses of probability and statistics in finance. It will cover mathematical and statistical aspects of interest and insurance, mean (expected return) and variance aspects of portfolios with multiple assets, efficient frontier and optimal portfolios. (Same as ST 4333/6333). Method of Instruction: C Method of Delivery: F & O Campus: 1 & 5 CIP: 270305 30 Char: Statistics in Finance Effective: Fall 2025
Addition PS 4513/6513	**Approved**	**PS 4513/6513 Human Rights** Three hours lecture. An examination of human rights law and policy as it relates to civil liberties restrictions, torture, unlawful imprisonment, extrajudicial killings, and genocide. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 451001

			30 Char: Human Rights Effective: Fall 2025
Addition	PS 4603/6603	**Approved**	**PS 4603/6603 Pathologies of Democracy** Three hours lecture. An examination of the challenges faced by contemporary democracies, including economic anxiety, political resentment, populism, misinformation, the desire for ethnic domination, and polarization. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 451001 30 Char: Pathologies of Democracy Effective: Fall 2025
Addition	PSY 3033	**Approved**	**PSY 3033 Introduction to Neuroscience** Three hours lecture. Introduction to the rudiments of neurobiology. Focus is on basic mechanisms of neuron conductance, transmission, intracellular signaling pathways and plasticity, plus a brief survey of human neuroanatomy, and sensory and cognitive neural systems. (Same as BIO 3033.) Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 261501 30 Char: Introduction to Neuroscience Effective: Fall 2025
Addition +Distance	ST 4333/6333	**Approved**	**ST 4333/6333 Statistics in Finance** (Pre-requisite: MA 2733, ST/MA 3123). Three hours lecture. This course aims to give an account of the main uses of probability and statistics in finance. It will cover mathematical and statistical aspects of interest and insurance, mean (expected return) and variance aspects of portfolios with multiple assets, efficient frontier and optimal portfolios. (Same as MA 4333/6333). Method of Instruction: C Method of Delivery: F & O Campus: 1 & 5 CIP: 270305 30 Char: Statistics in Finance Effective: Fall 2025
Addition +Distance	ST 8223	**Approved**	**ST 8223 Statistical Models for Option Pricing** (Prerequisite: ST/MA 4543/6543) Three hours lecture. This course deals with mathematical and statistical aspects of the financial derivative called option pricing. Focus will be on the binomial option price model, time series models and geometric Brownian motion as a limiting binomial model. Method of Instruction: C Method of Delivery: F & O Campus: 1 & 5 CIP: 270305

		30 Char: Stat Models of Option Pricing Effective: Fall 2025

BUSINESS

Tech Change MKT 4913/6913	**Approved**	**MKT 4913/6913 Live Case Course in Marketing** # of Repeats 3 Max Credits: 9 Effective: Fall 2025
Tech Change SCL 4913/6913	**Approved**	**SCL 4913/6913 Live Case Course in Marketing** # of Repeats 3 Max Credits: 9 Effective: Fall 2025

EDUCATION

Modification +Distance COE 8173	**Approved**	**COE 8173 Counseling Gifted Students** Method of Delivery: F & O Campus: 1 & 5 Effective: Fall 2025
Modification +Distance EDX 8133	**Approved**	**EDX 8133 Readings and Research in Exceptional Education** Method of Delivery: F & O Campus: 1, 2, & 5 Effective: Fall 2025
Modification +Distance EDX 8163	**Approved**	**EDX 8163 Teaching Strategies for Students who are Gifted** Method of Delivery: F & O Campus: 1, 2, & 5 Effective: Fall 2025
Modification +Distance HED 8583	**Approved**	**HED 8583 Administrative Competency in Stu Affairs & Higher Ed: Budgets & Supervision** Three hours lecture. Examines the theory and application of budgeting and supervision practices in Student Affairs and Higher Education settings, with a particular focus on college students and college student organizations. Method of Delivery: F & O Campus: 1 & 5 Effective: Fall 2025
Addition +Meridian +Distance HSPY 9913	**Approved**	**HSPY 9913 Capstone Seminar in Health Service Psychology** (Prerequisites: Acceptance into a graduate degree program in Health Service Psychology; or permission of instructor). Three hours seminar. Students prepare for their Capstone Project to investigate a specific problem of practice appropriate to health service psychology. Method of Instruction: S Method of Delivery: F & O Campus: 1, 2, & 5 CIP: 420601 30 Char: Capstone Seminar in HSPY Effective: Summer 2025

ENGINEERING

Technical Change	CE 2803	**Approved**	**FROM: CE 2803 Environmental Engineering Issues** (Prerequisite: Grade of C or better in CH 1213 and CH 1223). Three hours lecture. An overview of the scientific, social and legal issues impacting environmental management and protection in the United States. **TO: CE 2803 Environmental Engineering Issues** (Prerequisites: Grade of C or better in CH 1223 and credit or concurrent enrollment in MA 1723). Three hours lecture. Principles of environmental quality and sustainability. Environmental measurements. Biological and chemical concepts. Environmental management practices. Legal, ethical, and social aspects. Contemporary challenges and opportunities. Method of Delivery: F Campus: 1 30 Char: Env Engineering Issues Effective: Fall 2025
Technical Change	CE 3503	**Approved**	**FROM: CE 3503 Water Resource Engineering** (Prerequisite: Grade of C or better in CE 2803, credit or concurrent enrollment in EM 3313). Three hours lecture. Fundamentals of hydrology and hydraulics. Analysis and design of stormwater management systems; water distribution, stormwater, and sanitary sewer design. **TO: CE 3503 Water Resources Engineering** (Prerequisites: Grade of C or better in CE 2803 and EM 3313). Three hours lecture. Fundamentals of hydrology and hydraulics. Open channel flow. Pipe flow and pumps and reservoirs. Groundwater flow. Stormwater management. Method of Delivery: F Campus: 1 30 Char: Water Resources Engineering Effective: Fall 2025
Technical Change	CE 3603	**Approved**	**FROM: CE 3603 Structural Mechanics** (Prerequisite: Grade of C or better in EM3213.Grade of C or better in MA 3253). Three hours lecture. Analytical and graphical methods of structural analysis; stress diagrams; influence lines; deflection; methods of work, moment distribution and slope deflection. **TO: CE 3603 Structural Mechanics** (Prerequisites: Grade of C or better in EM 3213 and MA 3253). Three hours lecture. How structures respond to loads. Support reactions. Axial forces in truss members. Internal loadings in beams and frames. Influence lines. Deflections. Method of Delivery: F

		Campus: 1 30 Char: Structural Mechanics Effective: Fall 2025
Technical Change CE 4883/6883	**Approved**	**FROM: CE 4883/6883 Engineered Environmental Systems** (Prerequisite: CE 3503 & CE 3823 with grade of C or better; or consent of major advisor). Three hour lecture. Evaluation and characterization of storm water quality; selection, design and application of various treatment technologies; surface water quality management and modeling; and sustainable engineering. **TO: CE 4883/6883 Stormwater Management** (Prerequisites: Grade of C or better in CE 3503 and CE 3823). Three hours lecture. Stormwater quantity and quality. Stormwater management options and treatment processes. Regulations and policies. Environmental impacts and sustainability. Method of Delivery: F Campus: 1 30 Char: Stormwater Management Effective: Fall 2025

FOREST RESOURCES

Addition NREC 4733/6733	**Approved**	**NREC 4733/6733 Climate Change Resilience in Natural Resources** (Prerequisites: Junior standing). Three hours lecture. Explore methods of building resilience to climate change in human-managed ecological systems. Assess climate change vulnerabilities, adaptive measures, and the necessary elements of building resilient systems, including nature-based, policy-based, and technological approaches. Develop climate adaptation and resilience plans. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 030101 30 Char: Clim. Chg. Resil. Nat. Res. Effective: Fall 2025
Addition WFA 8232	**Approved**	**WFA 8232 Ecology of Large Rivers and their Floodplains** (Prerequisites: WFA 3133, BIO 3104, FO 4123 or equivalent). 2 hours lecture. Overview of fundamental physical and ecological processes that influence how large rivers function and the ecological services they provide. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 030205 30 Char: River Ecology Effective: Fall 2025

PROFESSIONAL AND CONTINUING STUDIES

Modification +Starkville	PCS 6333	**Approved**	**FROM: PCS 6333 The Dichotomies of Leadership** This course explores the concept of balance within leadership by evaluating common leadership dichotomies that leaders must constantly consider to be effective. **TO: PCS 6333 Principles of Effective Leadership** (Co-requisite: PCS 6343) Three hours lecture. This course explores the concept of balance within leadership by evaluating common leadership dichotomies that leaders must constantly consider to be effective. Method of Delivery: F & O Campus: 1 & 5 30 Char: Principles of Effective Lead Effective: Fall 2025
Technical Change	PCS 8103	**Approved**	**FROM: PCS 8103 Strategic Initiative Leadership in a Diverse Workplace** Three hours lecture. Equips students with the skills to formulate and implement strategic initiatives in various organizational settings. Specific emphasis is placed on integrating applied techniques to foster diversity, equity, and inclusion. **TO: PCS 8103 Strategic Initiative Leadership in the Workplace** Three hours lecture. Equips students with the skills to formulate and implement strategic initiatives in various organizational settings. Specific emphasis is placed on integrating applied techniques to foster diversity, equity, and inclusion. 30 Char: Strat In Leadership Work Effective: Fall 2025

INTEGRATIVE STUDIES

Addition	INTS 3013	**Approved**	**INTS 3013 Guiding Complex Collaborations** Three hours lecture. This course provides students with a foundation in developing collaborative strategies and addressing complex challenges by bringing together theories and insights from a variety of disciplines including engineering, management, psychology, and social science. Students will take from this course a set of ten (10) practical skills that will help them begin designing and guiding complex collaborations, giving them a competitive edge as they enter the workforce. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 520213 30 Char: Guiding Collaborations Effective: Fall 2025
Addition	TOUR 2103	**Approved**	**TOUR 2103 Foundations of Tourism and Destination Development** Three Hours Lecture. This

			course explores destination development by leveraging community assets to attract travelers. Students examine tourism's role in economic growth, community engagement, and viability while analyzing attraction management, cultural tourism, and outdoor recreation to craft experiences, promote destinations, and drive regional development. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 521906 30 Char: Foundations of Tourism Effective: Fall 2025
Addition	TOUR 4103	**Approved**	**TOUR 4103 Digital Storytelling for Tourism Destinations and Venues** Three Hours Lecture. This course examines tourism marketing with a focus on digital strategies, including data analytics, social media, branding, and content creation. Students will develop and execute campaigns for sectors such as sports, outdoor recreation, and cultural tourism, building a professional portfolio and mastering impactful, real-world marketing techniques. Method of Instruction: C Method of Delivery: F Campus: 1 CIP: 521906 30 Char: Digital Storytelling/Tourism Effective: Fall 2025

2. **Program Proposals by college/school:**

ACADEMIC AFFAIRS

Technical Change	Degree: Undeclared Major: Undeclared	**Approved**	Removed Engineering-Undeclared concentration. Effective Fall 2025

AGRICULTURE AND LIFE SCIENCES

Modification	**Degree:** BS **Major:** Animal & Dairy Science	**Approved**	See proposal for changes. Effective Fall 2026

ARCHITECTURE ART AND DESIGN

Technical Change	**Degree:** BFA **Major:** Art	**Approved**	See proposal for changes. Effective Fall 2025

ARTS AND SCIENCES

Addition	**Degree:** Minor **Major:** Applied	**Approved**	New Undergraduate Minor. Effective Fall 2025

	Neuroscience		
Modification	**Degree:** BS **Major:** Applied Sociology	**Approved**	See proposal for changes. Effective Fall 2025
Modification	**Degree:** MA **Major:** Foreign Languages	**Approved**	See proposal for changes. Effective Fall 2025
Modification	**Degree:** BA **Major:** Liberal Arts	**Approved**	See proposal for changes. Effective Fall 2025
Modification	**Degree:** BSW **Major:** Social Work	**Approved**	See proposal for changes. Effective Fall 2025

EDUCATION

Addition +Meridian	**Degree:** BAS **Major:** Early Childhood Teaching	**Approved**	New Degree Program Effective Fall 2025

ENGINEERING

Modification	**Degree:** BS **Major:** Aerospace Engineering	**Approved**	See proposal for changes. Effective Fall 2025
Modification	**Degree:** MS **Major:** Industrial and Systems Engineering	**Approved**	See proposal for changes. Effective Fall 2025

FOREST RESOURCES

Modification	**Degree:** MS **Major:** Sustainable Bioproducts	**Approved**	See proposal for changes. Effective Fall 2025
Modification	**Degree:** BS **Major:** Natural Resource and Environmental Conservation	**Approved**	See proposal for changes. Effective Fall 2025

INTEGRATIVE STUDIES

Modification	**Degree:** BS **Major:** Data Science	**Approved**	See proposal for changes. Effective Fall 2025

All of the proposals were approved with the exception of the following:

Proposals**

Peter Liam Ryan

Dr. Peter L. Ryan
Executive Vice Provost for Academic Affairs

June 12th, 2025
Date

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:** Center for Advising (Undeclared)

Contact Person: Sawyer Bowering **Mail Stop:** 9592 **E-mail:** scb165@msstate.edu

Nature of Change: Technical Change **Date Initiated:** 05/26/2025

Current Degree (BS, MS, etc.): No Degree

Current Major: Undeclared

Current Concentration(s): Pre-Engineering

Current Campus(es): ☑ **Starkville** ☐ **Meridian** ☑ **Distance** ☐ **Gulf Coast***

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): No Degree

Proposed Major: Undeclared

Proposed Concentration(s): No Concentration

Effective Date:

Semester	**Year**
Fall	2026

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Campus(es)

- ☑ Starkville
- ☐ Meridian
- ☑ Distance
- ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

Proposal to remove Pre-Engineering as a concentration in Undeclared.

Approved: **Date:**

Sawyer Bowering — 05/19/2025

Department Head

Director of Academic Quality

Chair, College or School Curriculum Committee

Sawyer Bowering — 05/19/2025

Dean of College or School

Digitally signed by Andy D. Perkins
Date: 2025.05.29 14:31:53 -05'00'

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Liam Ryan — June 12th, 2025

Chair, Deans Council

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

MISSISSIPPI STATE UNIVERSITY

CENTER FOR ADVISING
Old Main Academic Center
560 Barr Ave
Mississippi State, MS 39762
P. 662.325.4052
www.advising.msstate.edu

19 May 2025

Re: Technical Change Request

Dr. Perkins,

The Center for Advising in Academic Affairs is proposing to eliminate the Pre-Engineering concentration in the Undeclared major. This would result in the following changes:

1. Current Undeclared-Pre Engineering students would be changed to Undeclared (no concentration).
2. MSU admits who do not meet the admission requirements for the Bagley College of Engineering would be admitted as an Undeclared student with no concentration rather than with a Pre-Engineering concentration.
3. Current students changing their major to Undeclared would no longer have the option to select Pre-Engineering as a concentration.

Historical data reveals that Undeclared-Pre Engineering students are being retained and/or graduating in degrees outside of engineering. Removing this concentration will allow advisors to better serve these students through a broader, more exploratory approach that emphasizes a wider range of academic opportunities.

I appreciate your consideration.

Sincerely,

Sawyer Bowering

Executive Director
Center for Advising

MISSISSIPPI STATE UNIVERSITY™
JAMES WORTH BAGLEY
COLLEGE OF ENGINEERING

OFFICE OF THE
DEAN OF ENGINEERING

Robert A. Green, Ph.D. P.E., F.NSPE
Associate Dean for Academics
green@bagley.msstate.edu

19 May 2025

Dr. Andy Perkins
Chair, University Committee on Courses and Curricula
Mailstop 9702
Mississippi State, MS 39762

Dear Dr. Perkins,

I write this to support the request of the proposed technical change being submitted by the Center for Advising (CFA) to remove the concentration of "Pre-Engineering" from the Undeclared major. This concentration was added many years ago as an aide to the University Center for Academic Advising Center (UAAC) to identify those students who had been admitted to MSU but did not meet the criteria to declare a major in the Bagley College. This allowed them to easily assign these students to a specific advisor in the UAAC. Since that time, the UAAC, and now the CFA, have modified how they assign students to advisors, making the need for the concentration unnecessary. I also understand that the concentration is, in some cases, actually making it more difficult to properly advise students.

The Bagley College of Engineering is fully supportive of this technical change.

Sincerely,

Robert A. Green, Ph.D., P.E., F.NSPE
Associate Dean

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 College of Agricultural Sciences **Department:** Animal and Dairy Sciences

Contact Person: Erica Carroll **Mail Stop:** 9815 **E-mail:** edc226@msstate.edu

Nature of Change: Modification **Date Initiated:** 11/08/2024

Current Degree (BS, MS, etc.): BS

Current Major: Animal and Dairy Sciences

Current Concentration(s): Pre-vet Sciences; Production M

Current Campus(es): ☑ Starkville ☐ Meridian ☑ Distance ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): _____

Effective Date:

Semester	Year
Fall	2026

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: _____

Proposed Concentration(s): Food Science

Proposed Campus(es)

- ☑ Starkville
- ☐ Meridian
- ☑ Distance
- ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

Addition of ADS 3214 Growth and Development to the ADS Major Core. Please see attached sheets for each concentration to see adjustments. Total hours for graduation does not change. Required hours for ADS core are now 40 hours instead of 60.
Addition of a Food Science Concentration.

Approved: **Date:**

Christy J Bratcher — 4/23/2025

Department Head

Director of Academic Quality

Natraj Krishnan — Digitally signed by Natraj Krishnan Date: 2025.04.24 09:09:30 -05'00' — 4/24/2025

Chair, College or School Curriculum Committee

Darrell Sparks — Digitally signed by Darrell Sparks Date: 2025.04.24 09:17:04 -05'00' — 4/24/25

Dean of College or School

Andy D. Perkins — Digitally signed by Andy D. Perkins Date: 2025.05.29 14:32:16 -05'00'

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Liam Ryan — June 12th, 2025

Chair, Deans Council

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing undergraduate degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Include the course prefix, number, and title in both columns. Expand this table as needed.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Science Major: Animal and Dairy Science	Degree: Bachelor of Science Major: Animal and Dairy Science
Animal and Dairy Sciences is a multidisciplinary science that focuses on livestock and companion animal growth, health and safety, as well as food and fiber production. Professionals in the diverse fields of animal and dairy sciences strive to provide healthy and wholesome food as well as quality fiber products to support the growing population. Students in Animal and Dairy Sciences will learn about the newest technologies and experience progressive management strategies that will prepare them to be leaders in agriculture. Joining Animal and Dairy Sciences will give students hands-on education and experience needed to be successful in areas such as breeding, feeding and nutrition, growth and development, reproductive and lactation physiology, biotechnology, marketing, management, and evaluation as it relates to livestock species. The curriculum is designed to provide students with academic and experiential learning while also allowing them flexibility to tailor their program by taking courses that best prepare and support their professional goals. Students of the Animal and Dairy Sciences will be challenged to think critically and exercise knowledge of discipline content through scientific writing and presentation. Students pursuing veterinary medicine or graduate studies will find the academic setting of the Animal and Dairy Sciences is an ideal fit.	Animal and Dairy Sciences is a multidisciplinary science that focuses on livestock and companion animal growth, health and safety, as well as food and fiber production. Professionals in the diverse fields of animal and dairy sciences strive to provide healthy and wholesome food as well as quality fiber products to support the growing population. Students in Animal and Dairy Sciences will learn about the newest technologies and experience progressive management strategies that will prepare them to be leaders in agriculture. Joining Animal and Dairy Sciences will give students hands-on education and experience needed to be successful in areas such as breeding, feeding and nutrition, growth and development, reproductive and lactation physiology, biotechnology, marketing, management, and evaluation as it relates to livestock species. The curriculum is designed to provide students with academic and experiential learning while also allowing them flexibility to tailor their program by taking courses that best prepare and support their professional goals. Students of the Animal and Dairy Sciences will be challenged to think critically and exercise knowledge of discipline content through scientific writing and presentation. Students pursuing veterinary medicine or graduate studies will find the academic setting of the Animal and Dairy Sciences is an ideal fit.

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
English:		English:	
EN 1103 English Comp. I OR EN 1104 Expanded English Comp I	3	EN 1103 English Comp. I OR EN 1104 Expanded English Comp I	3
EN 1113 English Comp. II OR EN 1173 Accelerated Comp. II	3	EN 1113 English Comp. II OR EN 1173 Accelerated Comp. II	3
Fine Arts (General Education):		Fine Arts (General Education):	
Any Gen Ed course	3	Any Gen Ed course	3
Natural Sciences (2 labs required from Gen Ed):		Natural Sciences (2 labs required from Gen Ed):	
BIO 1134 Biology I	4	BIO 1134 Biology I	4

AND See Concentration specifics		AND See Concentration specifics	
Extra Sciences:			
Math (General Education): MA1323 Trigonometry OR 1713 Calculus *ST 2113 Statistics*	 3 3	Math (General Education): MA1323 Trigonometry OR 1713 Calculus	 3
Humanities (General Education): Any Gen Ed course	 6	Humanities (General Education): Any Gen Ed course **Except Food Science Concentration**	 6
Social/Behavioral Sciences (Gen Ed): Pick one Gen Ed course Economics (pick one) AEC 2713 Intro to Food & Resource Econ EC 2113 Prin of Macroeconomics EC 2123 Prin of Microeconomics	 3 3	Social/Behavioral Sciences (Gen Ed): Pick one Gen Ed course Economics (pick one) AEC 2713 Intro to Food & Resource Econ EC 2113 Prin of Macroeconomics EC 2123 Prin of Microeconomics	 3 3
Total General Education Hours	31	Total General Education Hours	31
Major Core Courses ADS 1111 Orientation to ADS ADS 1113 Animal Science ADS 1121 Animal Science Lab ADS 2111 ADS Career Planning ADS 3013 Anatomy and Physiology ADS 3031 Anatomy & Physiology Lab PO 3103 Genetics I ADS 3313 Intro to Meat Science ADS 3311 Meat Processing Laboratory ADS 4114 Animal Nutrition ADS 4124 Animal Breeding ADS 4213 Feeds and Feeding ADS 4613 Physiology of Repro ADS 4611 Prac in Phy & Repro ADS 4221 Capstone in Animal Sci Experiential Learning (3 credits required): ADS 4420 ADS Internship OR ADS 4440 Research Exp. Practicum OR ADS 4520 Extension Exp. Practicum	 1 3 1 1 3 1 3 3 1 4 4 3 3 1 1 3	Major Core Courses ADS 1111 Orientation to ADS ADS 1113 Animal Science ADS 1121 Animal Science Lab ADS 2111 ADS Career Planning ADS 3013 Anatomy and Physiology ADS 3031 Anatomy & Physiology Lab PO 3103 Genetics I **ADS 3214 Growth and Development** ADS 3313 Intro to Meat Science ADS 3311 Meat Processing Laboratory ADS 4114 Animal Nutrition ADS 4124 Animal Breeding ADS 4213 Feeds and Feeding ADS 4613 Physiology of Repro ADS 4611 Prac in Phy & Repro ADS 4221 Capstone in Animal Sci **ST 2113 Statistics** Experiential Learning (3 credits required): ADS 4420 ADS Internship OR ADS 4440 Research Exp. Practicum OR ADS 4520 Extension Exp. Practicum	 1 3 1 1 3 1 3 4 3 1 4 4 3 3 1 1 3 3
Total Major Hours	*36*	Total Hours	**43**
Concentration Courses See Concentration specifics		Concentration Courses See Concentration specifics	
CONCENTRATION DESCRIPTION:		CONCENTRATION DESCRIPTION:	

Pre-Vet/Science		Pre-Vet/Science **Provides strong science background and equips students for professional or graduate school.**	
Concentration Courses:		Concentration Courses:	
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CH 1211 Invest in Chemistry I	1	CH 1211 Invest in Chemistry I	1
CH 1223 Chemistry II	3	CH 1223 Chemistry II	3
CH 1221 Invest in Chemistry II	1	CH 1221 Invest in Chemistry II	1
CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab	4	CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab	4
BIO 1134 Biology II	4	BIO 1134 Biology II	4
BIO 3304 General Microbiology	4	BIO 3304 General Microbiology	4
BCH 4013 Principles of Biochemistry OR BCH 4603 General Biochemistry	3	BCH 4013 Principles of Biochemistry OR BCH 4603 General Biochemistry	3
CO 1003 Fundamentals of Public Speaking OR CO 1013 Intro to Communication	3	CO 1003 Fundamentals of Public Speaking OR CO 1013 Intro to Communication	3
Evaluation Electives (pick one) ADS 2102 Equine Conf/Perf Ev ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation	2	Evaluation Electives (pick one) ADS 2102 Equine Conf/Perf Ev ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation	2
Production Electives (pick two) ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab *ADS 3214 Growth and Development* PO 4334 Broiler Production	8	Production Electives (pick two) ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab PO 4334 Broiler Production	8
Science Electives (12 credit hours) ABE 3413 Bioinstrumentation I ABE 4263 Soil & Water Mgt ABE 4423 Bioinstrum II ADS 4112 Equine Reproduction ADS 4333 Equine Exercise Phy ADS 4543 Applied Animal Biotechnology ADS 4553 Current Literature in ADS ADS 4623 Physiol Of Lactation ADS 4633 Livestock Immun. and Disease BCH 4113 Essentials Mol Genetics BCH 4414 Protein Methods BCH 4603 Gen Biochem I	12	Science Electives (12 credit hours) ABE 3413 Bioinstrumentation I ABE 4263 Soil & Water Mgt ABE 4423 Bioinstrum II ADS 4112 Equine Reproduction ADS 4333 Equine Exercise Phy ADS 4543 Applied Animal Biotechnology ADS 4553 Current Literature in ADS ADS 4623 Physiol Of Lactation ADS 4633 Livestock Immun. and Disease BCH 4113 Essentials Mol Genetics BCH 4414 Protein Methods BCH 4603 Gen Biochem I BCH 4613 Gen Biochem II	12

BCH 4613 Gen Biochem II		BCH 4713 Molecular Biology	
BCH 4713 Molecular Biology		BIO 2103 Cell Biology	
BIO 2103 Cell Biology		BIO 3104 Ecology	
BIO 3104 Ecology		BIO 3113 Marine Biology	
BIO 3113 Marine Biology		BIO 3213 Bio Reps Amphibians	
BIO 3213 Bio Reps Amphibians		BIO 3223 Biology of Fishes	
BIO 3223 Biology of Fishes		BIO 3233 Biology of Birds	
BIO 3233 Biology of Birds		BIO 3303 Parasitology	
BIO 3303 Parasitology		BIO 3504 Comparative Anatomy	
BIO 3504 Comparative Anatomy		BIO 3524 Biol Of Vertebrates	
BIO 3524 Biol Of Vertebrates		BIO 4113 Evolution	
BIO 4113 Evolution		BIO 4114 Cellular Physiology	
BIO 4114 Cellular Physiology		BIO 4233 Living w Global Change	
BIO 4233 Living w Global Change		BIO 4324 Micro & Ecology in Soil	
BIO 4324 Micro & Ecology in Soil		BIO 4404 Environmental Micro	
BIO 4404 Environmental Micro		BIO 4405 Pathogenic Micro	
BIO 4405 Pathogenic Micro		BIO 4413 Immunology	
BIO 4413 Immunology		BIO 4414 Micro Of Foods	
BIO 4414 Micro Of Foods		BIO 4433 Prin Of Virology	
BIO 4433 Prin Of Virology		BIO 4443 Bacterial Genetics	
BIO 4443 Bacterial Genetics		BIO 4503 Vertebrate Histology	
BIO 4503 Vertebrate Histology		BIO 4514 Animal Physiology	
BIO 4514 Animal Physiology		CH 4521 Org Chem Lab II	
CH 4521 Org Chem Lab II		CH 4523 Organic Chemistry II	
CH 4523 Organic Chemistry II		CVM 4513 Environ Toxicology	
CVM 4513 Environ Toxicology		CVM 4523 Basic Neuroscience	
CVM 4523 Basic Neuroscience		EPP 4113 Principles of Plant Path	
EPP 4113 Principles of Plant Path		EPP 4154 General Entomology	
EPP 4154 General Entomology		FNH 2112 Food Products Evaluation	
FNH 2112 Food Products Evaluation		FNH 4114 Analysis of Food Product	
FNH 4114 Analysis of Food Product		FNH 4143 Dairy Foods Proc	
FNH 4143 Dairy Foods Proc		FNH 4164 Qual Assur Food Prod	
FNH 4164 Qual Assur Food Prod		FNH 4173 Food Packaging	
FNH 4173 Food Packaging		FNH 4241 Applied Food Chemistry	
FNH 4241 Applied Food Chemistry		FNH 4243 Food Comp & Reaction	
FNH 4243 Food Comp & Reaction		FNH 4313 Adv Science of Muscle Foods	
FNH 4313 Adv Science of Muscle Foods		FNH 4333 Food Law	
FNH 4333 Food Law		**FNH 4414 Micro Of Foods**	
FNH 4514 Poultry Processing		FNH 4514 Poultry Processing	
FNH 4553 Curr Issues Food Sci		FNH 4553 Curr Issues Food Sci	
FNH 4583 Food Preservation Tech		FNH 4583 Food Preservation Tech	
FNH 4593 New Food Product Devel		FNH 4593 New Food Product Devel	
PH 1113 Gen Physics I		PH 1113 Gen Physics I	
PH 1123 Gen Physics II		PH 1123 Gen Physics II	
PH 1133 Gen Physics III		PH 1133 Gen Physics III	
PH 2213 Physics I		PH 2213 Physics I	
PH 2223 Physics II		PH 2223 Physics II	
PO 4033 Diseases of Poultry		PO 4033 Diseases of Poultry	
PO 4324 Avian Reproduction		PO 4324 Avian Reproduction	
PO 4844 Avian Anatomy & Physiology		PO 4844 Avian Anatomy & Physiology	
PSS 4503 Plant Breeding		PSS 4503 Plant Breeding	
Free electives:		Free electives:	**5**
Any course in addition to required courses	*9*	Any course in addition to required courses	
Concentration Hours	57	Concentration Hours	**53**

Total Pre-Vet/Science Concentration Hours	124	Total Pre-Vet/Science Concentration Hours	124
CONCENTRATION DESCRIPTION: Business and Industry		CONCENTRATION DESCRIPTION: Business and Industry **Designed for students who wish to pursue an agricultural business career.**	
Concentration Courses: Chemistry Group I: CH 1043 Survey of Chemistry I CH 1053 Survey of Chemistry II CH 1051 Experimental Chemistry OR CH Group II: CH 1213 Chemistry I CH 1211 Invest in Chemistry I CH 1223 Chemistry II CH 1221 Invest in Chemistry II CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab CO 1003 Fundamentals of Public Speaking OR CO 1013 Intro to Communication Evaluation Electives (pick two): ADS 2102 Equine Conf/Perf Ev ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation Production Electives (pick two): ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab *ADS 3214 Growth and Development* PO 4334 Broiler Production Business Electives (pick four): ACC 2013 Prin of Financial Acct. AEC 2713 Intro to Food and Resource Econ. AEC 3113 Intro to Quant Econ AEC 3133 Introductory Agribus Mgt. AEC 3213 International Trade in Ag AEC 3233 Intro to Env Econ & Policy	 7 OR 8 4 3 4 8 12	Concentration Courses: Chemistry Group I: CH 1043 Survey of Chemistry I CH 1053 Survey of Chemistry II CH 1051 Experimental Chemistry OR CH Group II: CH 1213 Chemistry I CH 1211 Invest in Chemistry I CH 1223 Chemistry II CH 1221 Invest in Chemistry II CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab CO 1003 Fundamentals of Public Speaking OR CO 1013 Intro to Communication Evaluation Electives (pick two): ADS 2102 Equine Conf/Perf Ev ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation Production Electives (pick two): ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab PO 4334 Broiler Production Business Electives (pick four): ACC 2013 Prin of Financial Acct. AEC 2713 Intro to Food and Resource Econ. AEC 3113 Intro to Quant Econ AEC 3133 Introductory Agribus Mgt. AEC 3213 International Trade in Ag AEC 3233 Intro to Env Econ & Policy AEC 3413 Intro to Food Marketing	 7 OR 8 4 3 4 8 12

AEC 3413 Intro to Food Marketing AEC 3513 Food and Fiber Production AEC 4113 Agribusiness Firm Mgt AEC 4123 Fin & Comm Futures Mktg AEC 4133 Food Markets & Prices AEC 4233 Environmental Economics AEC 4343 Adv Farm Management AEC 4413 Public Problems of Ag EC 2113 Prin of Macroecon EC 2123 Prin of Microecon EC 4323 International Economics MGT 3113 Principals of Management MGT 3213 Org Communications MGT 3513 Intro Human Res Mgt. MGT 4113 Advanced Management MGT 4213 Org Communications II MGT 4413 Intro Operations Res. *General Agriculture Electives (12 Credits)* Any course taught in CALS Free electives: Any course in addition to required courses	 *12* 6 OR 7	AEC 3513 Food and Fiber Production AEC 4113 Agribusiness Firm Mgt AEC 4123 Fin & Comm Futures Mktg AEC 4133 Food Markets & Prices AEC 4233 Environmental Economics AEC 4343 Adv Farm Management AEC 4413 Public Problems of Ag EC 2113 Prin of Macroecon EC 2123 Prin of Microecon EC 4323 International Economics MGT 3113 Principals of Management MGT 3213 Org Communications MGT 3513 Intro Human Res Mgt. MGT 4113 Advanced Management MGT 4213 Org Communications II MGT 4413 Intro Operations Res. **General Agriculture Electives (8 Credits)** Any course taught in CALS Free electives: Any course in addition to required courses	 **8** 6 OR 7
Concentration Hours	*57*	Concentration Hours	**53**
Total Business and Industry Concentration Hours	124	Total Business and Industry Concentration Hours	124
CONCENTRATION DESCRIPTION: Production Management		CONCENTRATION DESCRIPTION: Production Management **Promotes practical application of skills relevant to animal production.**	
Concentration Courses: Chemistry Group I: CH 1043 Survey of Chemistry I CH 1053 Survey of Chemistry II CH 1051 Experimental Chemistry OR CH Group II: CH 1213 Chemistry I CH 1211 Invest in Chemistry I CH 1223 Chemistry II CH 1221 Invest in Chemistry II CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab PSS 4103 Forage Pasture Evaluation Electives (pick two): ADS 2102 Equine Conf/Perf Ev	 7 OR 8 4 3 4	Concentration Courses: Chemistry Group I: CH 1043 Survey of Chemistry I CH 1053 Survey of Chemistry II CH 1051 Experimental Chemistry OR CH Group II: CH 1213 Chemistry I CH 1211 Invest in Chemistry I CH 1223 Chemistry II CH 1221 Invest in Chemistry II CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab PSS 4103 Forage Pasture Evaluation Electives (pick two): ADS 2102 Equine Conf/Perf Ev	 7 OR 8 4 3 4

ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation		ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation	
Production Electives (pick four): ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab *ADS 3214 Growth and Development* PO 4334 Broiler Production	16	Production Electives (pick four): ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab PO 4334 Broiler Production	16
Business Electives (pick two): ACC 2013 Prin of Financial Acct. AEC 2713 Intro to Food and Resource Econ. AEC 3113 Intro to Quant Econ AEC 3133 Introductory Agribus Mgt. AEC 3213 International Trade in Ag AEC 3233 Intro to Env Econ & Policy AEC 3413 Intro to Food Marketing AEC 3513 Food and Fiber Production AEC 4113 Agribusiness Firm Mgt AEC 4123 Fin & Comm Futures Mktg AEC 4133 Food Markets & Prices AEC 4233 Environmental Economics AEC 4343 Adv Farm Management AEC 4413 Public Problems of Ag EC 2113 Prin of Macroecon EC 2123 Prin of Microecon EC 4323 International Economics MGT 3113 Principals of Management MGT 3213 Org Communications MGT 3513 Intro Human Res Mgt. MGT 4113 Advanced Management MGT 4213 Org Communications II MGT 4413 Intro Operations Res.	6	Business Electives (pick two): ACC 2013 Prin of Financial Acct. AEC 2713 Intro to Food and Resource Econ. AEC 3113 Intro to Quant Econ AEC 3133 Introductory Agribus Mgt. AEC 3213 International Trade in Ag AEC 3233 Intro to Env Econ & Policy AEC 3413 Intro to Food Marketing AEC 3513 Food and Fiber Production AEC 4113 Agribusiness Firm Mgt AEC 4123 Fin & Comm Futures Mktg AEC 4133 Food Markets & Prices AEC 4233 Environmental Economics AEC 4343 Adv Farm Management AEC 4413 Public Problems of Ag EC 2113 Prin of Macroecon EC 2123 Prin of Microecon EC 4323 International Economics MGT 3113 Principals of Management MGT 3213 Org Communications MGT 3513 Intro Human Res Mgt. MGT 4113 Advanced Management MGT 4213 Org Communications II MGT 4413 Intro Operations Res.	6
General Agriculture Electives (12 Credits) Any course taught in CALS	*12*	**General Agriculture Electives (12 Credits)** Any course taught in CALS	**8**
Free electives: Any course in addition to required courses	4 OR 5	Free electives: Any course in addition to required courses	4 OR 5
Concentration Hours	*57*	Concentration Hours	**53**
Total Production Management Concentration Hours	124	Total Production Management Concentration Hours	124
CONCENTRATION DESCRIPTION: Pre-Veterinary Med Tech		CONCENTRATION DESCRIPTION: Pre-Veterinary Med Tech	

		Provides a basis with appropriate pre-requisites for students who wish to apply for entry into the College of Veterinary Medicine's Veterinary Medical Technology degree.	
Concentration Courses:		Concentration Courses:	
Chemistry Group I: CH 1043 Survey of Chemistry I CH 1053 Survey of Chemistry II CH 1051 Experimental Chemistry	7 OR 8	Chemistry Group I: CH 1043 Survey of Chemistry I CH 1053 Survey of Chemistry II CH 1051 Experimental Chemistry	7 OR 8
OR		OR	
CH Group II: CH 1213 Chemistry I CH 1211 Invest in Chemistry I CH 1223 Chemistry II CH 1221 Invest in Chemistry II		CH Group II: CH 1213 Chemistry I CH 1211 Invest in Chemistry I CH 1223 Chemistry II CH 1221 Invest in Chemistry II	
CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab	4	CH 2503/2501 Elem Organic CH and Lab OR CH 4513/4511 Organic CH I and Lab	4
BIO 1134 Biology II BIO 3304 General Microbiology CO 1003 Fundamentals of Public Speaking VS 1012 Intro to Vet Med Career VS 3101 Vet Tech Med Career	4 4 3 2 1	BIO 1134 Biology II BIO 3304 General Microbiology CO 1003 Fundamentals of Public Speaking VS 1012 Intro to Vet Med Career VS 3101 Vet Tech Med Career	4 4 3 2 1
Evaluation Electives (pick one) ADS 2102 Equine Conf/Perf Ev ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation	2	Evaluation Electives (pick one) ADS 2102 Equine Conf/Perf Ev ADS 2122 Adv Equine Eval ADS 2202 Companion Animal Evaluation ADS 3142 Meats Judging I ADS 3812 Dairy Cattle Appraisal ADS 3212 Livestock Eval ADS 4232 Adv Livestock Eval FNH 2112 Food Products Evaluation	2
Production Electives (pick two) ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab *ADS 3214 Growth and Development* PO 4334 Broiler Production	8	Production Electives (pick two) ADS4513/4511 Companion Ani. Mgt and Lab ADS 4233/4231 Horse Mngmt and Lab ADS 4113/4111 Swine Science and Lab ADS 4223/4211 Goat and Sheep Prod and lab ADS 4323/4321 Beef Cattle Sci and Lab ADS 4813/4811 Dairy Farm Mngmt and Lab *ADS 3214 Growth and Development* PO 4334 Broiler Production	8
Ag/Science Electives Any course taught in CALS or 3000-4000 level 'hard sciences'	*12*	**Ag/Science Electives** Any course taught in CALS or 3000-4000 level 'hard sciences'	**8**
Free electives: Any course in addition to required courses	9 OR 10	Free electives: Any course in addition to required courses	9 OR 10

Concentration Hours	*57*	Concentration Hours	**53**
Total Production Management Concentration Hours	124	Total Production Management Concentration Hours	124
CONCENTRATION DESCRIPTION: Food Science		CONCENTRATION DESCRIPTION: Food Science **Provides students with the basis for food processing, preservation, food safety, and the environmental impact of food production.**	
		Concentration Courses: **Chemistry Group I:** **CH 1043 Survey of Chemistry I** **CH 1053 Survey of Chemistry II** **CH 1051 Experimental Chemistry** **OR** **CH Group II:** **CH 1213 Chemistry I** **CH 1211 Invest in Chemistry I** **CH 1223 Chemistry II** **CH 1221 Invest in Chemistry II** **Additional General Education:** **FLS 1113 Spanish I** **FLS 1123 Spanish II** ***Only different for this concentration, other concentrations are any Gen Ed** **BIO 1144 Biology II** **BIO 3304 General Microbiology** **BCH 4013 Principles of Biochemistry** **OR BCH 4603 General Biochemistry** **Evaluation Elective:** **ADS 3142 Meats Judging 1** **FNH 4164 Quality Assurance Food Prod** **Production Electives (Pick two):** **ADS4513/4511 Companion Ani. Mgt and Lab** **ADS 4233/4231 Horse Mngmt and Lab** **ADS 4113/4111 Swine Science and Lab** **ADS 4223/4211 Goat and Sheep Prod and Lab** **ADS 4323/4321 Beef Cattle Sci and Lab** **ADS 4813/4811 Dairy Farm Mngmt and Lab** **PO 4334 Broiler Production** **Food Science Electives:** **ADS 4243 Food Comp & Reaction** **ADS 4313 Adv. Science of Muscle Foods** **FNH 4114 Analysis of Food Product** **FNH 4164 Quality Assurance of Food Products**	 **7 OR 8** **3*** **3*** **4** **4** **3** **2** **2** **8** **22 OR 23**

		FNH 4241 Applied Food Chemistry **FNH 4333 Food Law** **FNH 4414 Micro of Food** **FNH 4583 Food Preservation Tech** **FNH 4593 New Food Product Devel**	
		Concentration Hours	**53**
		Total Production Management Concentration Hours	**124**

JUSTIFICATION

The Department of Animal and Dairy Sciences is working to update the curriculum in two different ways.

1) The ADS faculty finds it necessary to incorporate ADS 3214 Growth and Development into the ADS core due to the relevant content of the course. This course contains pertinent information to all concentrations within the ADS department such as muscle and adipose development as it relates to the quality of animals whether they are produced for food or performance. This is also a foundational course for student's production elective courses as well as a complimentary course to meat science.
2) To incorporate a comprehensive curriculum with degree seeking opportunities in Food Science, as many of our students are interested in a career in the food industry and we provide the meat and milk for human consumption through our work in raising livestock. Recently, there was a structural reorganization, resulting in the separation of disciplines in some departments in the College of Agriculture and Life Sciences. As part of this transition, the Biochemistry division has merged with Nutrition and Health Promotion to form the newly established Department of Biochemistry, Nutrition and Health Promotion in July 2024. This merger has allowed for an opportunity for ADS to also be involved in a curriculum that combines our area of expertise with those in BNHP to integrate expertise from both fields and interdisciplinary learning to expand career opportunities for students. The demand for expertise in food science is rapidly growing due to increasing global concerns about nutrition, sustainability, food safety, and the environmental impact of food production. Historically, ADS has provided a foundation in rearing livestock for food and fiber for humans and animals alike. We provide coursework to prepare students to work in the meat science and dairy industries and have an opportunity to introduce these students to other foundational courses to support this career path with food engineering, nutrition, and biotechnology. Students graduating from the food science concentration will be equipped with the knowledge and skills required for food product development, improve food safety, and contribute to the formulation of health-conscious, sustainable food solutions. The addition of this concentration will also position graduates for roles in academia, industry, regulatory agencies, and public health sectors, where expertise in both animal production and food science is essential. The addition of this concentration aligns with many universities across the nation. There are a few universities with specific Meat Science concentrations in Animal Sciences, however, those programs are slowly moving away from that option. As a food scientist, starting salaries with a B.S. degree in meat companies are typically $60,000 -65,000, whereas production animal science is around $38,000-42,000. Our students will be better equipped to excel in job application pools with a concentration in Food Science housed in Animal and Dairy Science as they combine their production knowledge with a food science approach.

OUTLINE OF CHANGES

1. Adding ADS 3214 across all concentrations as a Major Core course. To do this 4 hours were added to the Major Core and the following deleted from the concentrations:

    a. Pre-Vet/Science – move from 9 credit hours of Free Electives to 5 credit hours of Free Electives
    b. Business and Industry - move from 12 credit hours of General Ag Electives to 8 credit hours of General Ag Electives
    c. Production Management - move from 12 credit hours of General Ag Electives to 8 credit hours of General Ag Electives
    d. Pre-Vet Med-Tech - move from 12 credit hours of Ag/Science Electives to 8 credit hours of Ag/Science Electives
2. Change BIO 4414 Microbiology of Foods to FNH 4414 Microbiology of Foods in the Pre-Vet/Science "Science Electives" menu
3. Add concentration descriptions to each concentration
4. Add Food Scicnce Concentration

STUDENT LEARNING OUTCOMES

No significant changes in the learning outcomes were introduced in the major core, except for introducing ADS 3214 Growth and Development. Student learning outcomes for this course include:

1. Understand the fundamental concepts of Animal Growth and Development

2. Apply the regulation of muscle, bone, and adipose tissue growth and expansion

3. Understand the influence of endocrine, paracrine, and autocrine factors on growth and development of these tissues

4. Apply student's knowledge of anatomy, physiology, biochemistry and nutrition into practical aspects of animal growth and the manipulation thereof.

SUPPORT LETTERS

Attached

EFFECTIVE DATE

August 16, 2025

MISSISSIPPI STATE UNIVERSITY.

DEPARTMENT OF
ANIMAL AND DAIRY SCIENCES
P.O. Box 9815
Mississippi State, MS 39762
P. 662.325.2802
F. 662.325.8873

November 8, 2024

Please accept this letter of support for modifications of the major core for the Animal and Dairy Science curriculum. The faculty have met and discussed the importance of the addition of ADS 3214 Growth and Development to each student in the ADS department. These changes will have no impact on other departments.

These curriculum changes are supported by the faculty of the Department of Animal and Dairy Sciences. Signatures are from ADS the curriculum committee.

Carroll, Erica	Erica Carroll Erica Carroll (Nov 8, 2024 09:38 CST)
Haas, Ellen	Ellen Haas Ellen Haas (Nov 8, 2024 10:16 CST)
Lemley, Caleb	Caleb Lemley Caleb Lemley (Nov 8, 2024 10:25 CST)
Molly Nicodemus	Molly Nicodemus Molly Nicodemus (Nov 8, 2024 10:33 CST)
Brian Rude	Brian J. Rude Brian J. Rude (Nov 8, 2024 10:01 CST)
Trent Smith	Trent Smith Trent Smith (Nov 8, 2024 12:55 CST)

G&D LOS

Final Audit Report 2024-11-08

Created:	2024-11-08
By:	Erica Carroll (edc226@msstate.edu)
Status:	Signed
Transaction ID:	CBJCHBCAABAAr7wAMRhYiaf7BOMEEoBFYVyG-mM-PsZZ

"G&D LOS" History

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Signer brude@ads.msstate.edu entered name at signing as Brian J. Rude
2024-11-08 - 4:01:36 PM GMT

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Document e-signed by Molly Nicodemus (mcn16@msstate.edu)
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Agreement completed.
2024-11-08 - 6:55:32 PM GMT

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 Architecture, Art & Design **Department:** ART

Contact Person: Critz Campbell **Mail Stop:** 9638 **E-mail:**

Nature of Change: Technical Change **Date Initiated:** 5/16/2025

Current Degree (BS, MS, etc.): Bachelor of Fine Art - BFA

Current Major: ART - Undeclared

Current Concentration(s): Fine Art - Graphic Design - Photography

Current Campus(es): ☑ **Starkville** ☐ **Meridian** ☐ **Distance** ☐ **Gulf Coast***

*Gulf Coast campus for Bagley College of Engineering onl

New Degree (BS, MS, etc.): No Change

Effective Date:

Semester Fall **Year** 2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: ART-Foundations

Proposed Concentration(s): No Change

Proposed Campus(es)

- ☑ Starkville
- ☐ Meridian
- ☐ Distance
- ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering o

Summary of Proposed Changes:

Students who have not completed their portfolio review for acceptance into one of Art's three concentration areas are currently classified as ART-Undeclared. The Department has approved changing this classification name from ART-Undeclared to ART-Foundations.

Approved: **Date:**

Critz Campbell — Digitally signed by Critz Campbell Date: 2025.05.16 11:52:02 -05'00'

Department Head

Director of Academic Quality

Chair, College or School Curriculum Committee

Dominic Lippillo — Digitally signed by Dominic Lippillo Date: 2025.05.20 14:06:27 -05'00'

Dean of College or School

Digitally signed by Andy D. Perkins Date: 2025.05.29 14:32:45 -05'00'

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Liam Ryan — June 12th, 2025

Chair, Deans Council

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

MISSISSIPPI STATE UNIVERSITY

College of Architecture Art + Design
Department of Art

P.O. Box 5187
415 Barr Avenue
Mississippi State, MS 39762

P. 662.325.2970
F. 662.325.3850
www.caad.msstate.edu

May 15, 2025

To: UCCC Chair

From: Critz Campbell
Professor & Head
Department of Art

RE: Degree Name Change Notification

Dear Dr. Perkins

On Friday, May 2, 2025, a quorum of Department of Art faculty voted to change the name of the pre-portfolio Art Major from Art-Undeclared to Art-Foundations. This updated title better reflects the program's role in preparing students with foundational skills prior to portfolio review.

Please accept this letter, along with the attached faculty letter of support and signatures, as a formal request for this technical change.

Sincerely,

Critz Campbell Digitally signed by Critz Campbell
Date: 2025.05.15 10:25:48 -05'00'

Critz Campbell
Professor & Head
Department of Art

MISSISSIPPI STATE UNIVERSITY

College of Architecture Art + Design
Department of Art

P.O. Box 5182
415 Barr Avenue
Mississippi State, MS 39762

P. 662.325.2970
F. 662.325.3850
www.caad.msstate.edu

May 2, 2025

RE: ART-Undeclared

On Friday, May 2, 2025, a quorum of the Department of Art faculty voted to confirm in this letter of support that the Department of Art voted to change the name of the **Art-Undeclared** major to Art - Foundations for pre-portfolio review Art majors.

Sincerely,

Critz Campbell
Department Head

Printed Name	Signature
AUBREY POHL	[signature]
CAROLINE HATFIELD	[signature]
Jenna Altomonte	[signature]
SUZANNE POWNEY	[signature]
BENJAMIN HARVEY	[signature]
Jacob Crook	[signature]
Robert Long	[signature]
Dominic Lippillo	[signature]
Keum-Taek Jung	[signature]
Aaron McPhail	[signature]
Sommer Nash	[signature]
Catherine Jones	[signature]
dixie boswell	[signature]
Jingshuo Yang	[signature]
ANGELA LATHAM	[signature]

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 College of Arts & Sciences **Department:** Psychology

Contact Person: Adam Jones **Mail Stop:** 9637 **E-mail:** jones@cse.msstate.edu

Nature of Change: Addition **Date Initiated:** 04/24/2024

Current Degree Program Name: NA

Current Major: NA

Current Concentration(s): NA

Current Campus(es): Starkville

New Degree Program Name: Minor in Applied Neuroscience **Effective Date:** 08/20/25

Semester	Year
Fall	2025

Proposed Major: Minor in Applied Neuroscience

Proposed Concentration(s): NA

Proposed Campus(es): Starkville

Summary of Proposed Changes:

The proposed program is an undergraduate minor in Applied Neuroscience. This minor consists of 18 credit hours: 6 hours from core courses focusing on neurobiological and neuropsychological topics, and 12 hours of neuroscience-related electives. Electives must come from at least two departments. Relevant electives not listed below must be approved before they can be applied toward course requirements. No more than 50% of the courses applied toward this minor may be core courses within a given student's major.

Approved:	Date:
Jarrod Moss Digitally signed by Jarrod Moss Date: 2025.02.19 11:49:05 -06'00' Department Head	02/19/2025
Director of Academic Quality	2/19/0025
Chair, College or School Curriculum Committee	4/11/25
Dean of College or School	4/11/25
Digitally signed by Andy D. Perkins Date: 2025.05.29 14:32:57 -05'00' Chair, University Committee on Courses and Curricula	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	June 12th, 2025

Proposal: Undergraduate Minor in Applied Neuroscience

Table of Contents

New Degree Outline Chart

NEW DEGREE OUTLINE FORM

Use the chart below to indicate your new degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. Expand rows as needed.

PROPOSED New Degree	
Degree: Undergraduate Minor Major: Applied Neuroscience Concentration: N/A	
The proposed program is an undergraduate minor in Applied Neuroscience. The minor will provide fundamental knowledge of neuroscience and neuroscience-related topics, providing a broad foundation within the field. This minor consists of 18 credit hours: 6 hours from core courses focusing on neurobiological and neuropsychological topics, and 12 hours of neuroscience-related electives. Electives must come from at least two departments. No more than 50% of the courses applied toward this minor may be core courses within a given student's major. Relevant electives not listed below must be approved before they can be applied toward course requirements.	
Proposed Curriculum Outline	Required Hours
Neurobiological Core (choose 1): BIO/PSY 3033 - Introduction to Neuroscience PSY 4403 - Biological Psychology NOTE: Students must receive a final grade of C or greater in all core courses.	3
Neuropsychological Core (choose 1): PSY 3713 - Cognitive Psychology PSY 4413 - Cognitive Neuroscience PSY 4423 - Sensation & Perception NOTE: If a student takes both PSY 4403 and BIO/PSY 3033, one of those courses may be used to satisfy this requirement. Students must receive a final grade of C or greater in all core courses.	3
Elective Courses (choose 4): ABE 3413 - Bioinstrumentation ABE 4323 - Physiological Systems in Biomedical Engineering ABE 4613 - Biomechanics ABE 4633 - Biomedical Signals and Sensors ABE 4723 - Tissue Eng. and Regeneration BCH 4013 - Principles of Biochemistry BCH 4713 - Molecular Biology BIO 3004 - Human Anatomy BIO/PSY 3033 - Introduction to Neuroscience BIO 3033 - Introduction to Neuroscience BIO 4133 - Human Genetics BIO 4503 - Vertebrate Histology BIO/PO 3103 - Genetics CSE 4433 - Virtual and Extended Reality CSE 4633 - Artificial Intelligence CSE 4643 - AI Robotics CSE 4663 - Human-Computer Interaction CSE 4683 - Machine Learning and Soft Computing EP 4703 - Neural Control & Human Movement PE 3223 - Motor Development & Movement PE 4853 - Motor Learning & Skill Analysis	12

PHI 4223/PSY 4383 - Philosophy of Cognitive Science PSY 3713 - Cognitive Psychology PSY 4223 - Drug Use and Abuse PSY 4403 - Biological Psychology PSY 4413 - Cognitive Neuroscience PSY 4423 - Sensation & Perception PSY/CSE 4653 - Cognitive Science PSY 4713 - Language and Thought PSY 4733 - Memory NOTE: Students may choose to take a 4800 Undergraduate Research course or a Directed Individual Study where they engage in faculty-mentored, neuroscience-related research for up to 3 hours credit toward elective requirements. In order to utilize this option, students must submit a research plan signed by their faculty mentor for approval by the Applied Neuroscience Curriculum Committee. Other courses that can be reasonably justified as having neuroscience content may also be counted toward elective requirements with approval of the program coordinator. This must be completed and approved prior to applying for graduation. Core courses cannot be double counted as electives. However, core courses taken beyond the specified core requirements may be applied to fulfill the elective requirements. Students must receive a final grade of C or greater in all elective courses.	
Total Hours	18

Additional Program Information

Justification:
With neuro-technology, artificial intelligence, and extended reality becoming increasingly common in daily life, this minor is intended to provide students with a working knowledge of the science that fundamentally underpins them. Thus, the minor's core courses focus on neurobiology, neural processing, perception, and cognition. The remaining elective courses are intended to allow students to study neuroscience-related topics that align with their educational and career trajectories while also ensuring a broad foundation within the field. Courses, when available, may be taken either online or in-person pending departmental enrollment policies. Courses not listed in this proposal that contain sufficient neuroscience research or application may count toward elective requirements pending approval by the program coordinator.

Target Audience:
Undergraduate students who are interested in understanding neuroscience applications and research across multiple disciplines.

Effective Date:
August 2025

Proposed Abbreviation:
NEU

CIP Code:
26.1501 (Neuroscience)

CIP Description:
A program that focuses on the interdisciplinary scientific study of the molecular, structural, physiologic, cognitive, and behavioral aspects of the brain and nervous system. Includes instruction in molecular and cellular neuroscience, brain science, anatomy and physiology of the central nervous system, molecular and biochemical bases of information processing, behavioral neuroscience, biology of neuropsychiatric disorders, and applications to the clinical sciences and biomedical engineering.

Learning Outcomes and Evaluations:

- *Outcome 1:* Demonstrate an understanding of fundamental neurobiological mechanisms.
  Evaluation: A grade of C or better on the exam focusing on fundamental neurobiological mechanisms in either BIO/PSY 3033 or PSY 4403.

- *Outcome 2:* Use fundamental principles to analyze neuroscience applications in multiple disciplines.
  Evaluation: A reflective essay clearly demonstrating an understanding of neuroscience and its applications as evaluated by the program coordinator.

Administration of the Minor:
This proposal has been developed by the Neuroscience Organizing Committee, consisting of representatives from the participating departments. Upon approval of this proposal, this committee will become the Applied Neuroscience Curriculum Committee (ANCC). The curriculum for this minor will be managed by the ANCC. The committee will include one faculty representative from each department contributing courses to the minor. One member will serve as the committee chair and program coordinator for a term of three years. The minor will be housed within the Department of Psychology in the College of Arts & Sciences. Although the ANCC oversees the minor, administrative approvals must proceed through the Psychology Department Chair and the College of Arts & Sciences. The ANCC will meet no less than once per semester to evaluate the state of the curriculum, discuss future directions, and vote on curricular modifications and additions.

Each department offering courses in the minor must have one representative on the ANCC. If relevant courses from a department not currently represented on the ANCC are added to the approved curriculum, a representative from that department must be added to the committee. Ideally, ANCC members are faculty who teach classes relevant to the minor. In the event a member must be replaced, their associated department may select a replacement member whose teaching and research most closely align with the minor. New or replacement members must submit a CV for evaluation by the ANCC. The ANCC will vote on the addition of the proposed member. In the event that the ANCC does not find sufficient overlap between the proposed member's teaching or research and applied

neuroscience, the ANCC may request that their respective department suggest an alternative member for consideration. In the event that a participating department no longer offers neuroscience-related courses, it will no longer require representation on the ANCC.

Every three years, a committee chair is elected by the ANCC from its members. The election will take place during a regularly scheduled ANCC meeting. The chair of the Organizing Committee will serve as the inaugural chair of the ANCC with elections occurring every three years thereafter.

Program Faculty Support Letter

MISSISSIPPI STATE UNIVERSITY

BAGLEY COLLEGE OF ENGINEERING
Department of Computer Science and Engineering
Mississippi State University
Starkville, MS, USA, 39762
P. (662) 325-2756
jones@cse.msstate.edu
www.cse.msstate.edu

To Whom It May Concern: February 19, 2025

We are pleased to present the application materials and formal support for the creation of a Minor in Applied Neuroscience. This is a program that crosses many departmental and college boundaries, highlighting Mississippi State University's culture of cooperation and innovation. This minor consists of 18 credit hours: 6 hours from core courses focusing on neurobiological and neuropsychological topics, and 12 hours of neuroscience-related electives. Electives must come from at least two departments. Additional details about the program and its administration can be found in our attached proposal.

This proposal is being submitted by the Neuroscience Organizing Committee, consisting of representatives from the participating departments. Upon approval of this proposal, this committee will become the Applied Neuroscience Curriculum Committee (ANCC). The curriculum for this minor will be managed by the ANCC. The committee will include one faculty representative from each department contributing courses to the minor. One member will serve as the committee chair and program coordinator for a term of three years. The chair of the Organizing Committee will serve as the inaugural chair of the ANCC with elections occurring every three years thereafter.

As such, the committee consists of the following representatives:

- David Van Den Heever, *Agricultural and Biological Engineering*
- Jiaxu Li, *Biochemistry, Nutrition, and Health Promotion*
- Angus Dawe, *Biological Sciences*
- J. Adam Jones, *Computer Science & Engineering*
- Zhujun Pan, *Kinesiology*
- John Bickle, *Philosophy and Religion*
- Ken Maclyn, *Poultry Science*
- Jarrod Moss, *Psychology*

We will happily address any questions, comments, or concerns you may have about the minor.

With Sincere Support,

2/19/2025
J. Adam Jones (committee chair)

2/19/2025
David Van Den Heever (committee member)

2/20/2025
John Bickle (committee member)

Angus Dawe Digitally signed by Angus Dawe Date: 2025.02.20 14:28:48 -06'00'
Angus Dawe (committee member)

Jarrod Moss Digitally signed by Jarrod Moss Date: 2025.02.20 12:13:31 -06'00'
Jarrod Moss (committee member)

Ken Macklin Digitally signed by Ken Macklin Date: 2025.02.20 08:07:33 -06'00'
Ken Maclyn (committee member)

Jiaxu Li Jiaxu Li 2025.02.19 23:37:46 -06'00'
Jiaxu Li (committee member)

Zhujun Pan (committee member)

Departmental Support Letters

MISSISSIPPI STATE UNIVERSITY.

Department of Agricultural and Biological Engineering
P. O. Box 9632, Mississippi State, MS 39762
Phone: 662.325.3282; Website: abe.msstate.edu

February 18, 2025

To whom it may concern:

I am writing in support of the Minor in Applied Neuroscience. As a department, we support the use of the following Agricultural & Biological Engineering courses as electives:

- ABE 3413 - Bioinstrumentation
- ABE 4323 - Phys. Systems in Biomedical Eng.
- ABE 4633 - Biomedical Signals and Sensors
- ABE 4613 - Biomechanics
- ABE 4723 - Tissue Eng. and Regeneration

Online enrollment may be necessary for non-majors due to the need to meet major matriculation needs. Overrides can be given on a case-by-case basis as per need during other instructional periods. Please do not hesitate to contact me for any further information or clarification.

Sincerely,
ABE faculty

J. Alex Thomasson
Department Head, Professor

Dong Chen
Assistant Professor

Daniel Chesser
Assistant Professor

Jessica Drewry
Digitally signed by Jessica Drewry
Date: 2025.02.19 10:53:43 -06'00'
Jessica Drewry
Assistant Ext. Professor

Steve Elder
Professor

Hussein Gharakhani
Assistant Professor

Seungil Kim
Assistant Professor

Wes Lowe
Assistant Professor

Vitor Martins
Assistant Professor

Maryam Mohammadi
Assistant Research Professor

Prem Parajuli
Professor

Lauren Priddy
Associate Professor

Digitally signed by Amirtaha Taebi
Date: 2025.02.19 08:16:07 -05'00'
Amirtaha Taebi
Assistant Professor

Mary Love Tagert
Associate Professor

David Vandenheever
Associate Professor

Nuwan Wijewardane
Assistant Professor

Fei Yu
Professor

Xin Zhang
Assistant Professor

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF BIOCHEMISTRY, NUTRITION,
AND HEALTH PROMOTION
P. O. Box 9655
Mississippi State, MS 39762
P. 662.325.2640
bchnhp.msstate.edu

February 10, 2025

Dr. Adam Jones
Department of Computer Science & Engineering
323 Butler Hall
Mississippi State, MS 39762

Re: **Letter of Support for Minor in Applied Neuroscience**

Dear Dr. Jones,

I am pleased to write this letter in support of the minor in Applied Neuroscience that is being developed by several departments on campus. I have discussed the minor in Applied Neuroscience with the Biochemistry faculty, and everyone that had an opinion on the Applied Neuroscience minor saw it as a positive for MSU and the Department of Biochemistry, Nutrition & Health Promotion (BCHNHP). The Biochemistry faculty are pleased that two Biochemistry courses – BCH 4013: Principles of Biochemistry & BCH 4713: Molecular Biology – will be included in the elective list for the minor.

We look forward to helping you with the minor in Applied Neuroscience!

Please feel free to contact me if you require any additional information.

Sincerely,

Daniel G. Peterson, Ph.D.
William L. Giles Distinguished Professor
Interim Head
Department of Biochemistry, Nutrition & Health Promotion

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES

P.O. Box GY
295 E Lee Blvd
Mississippi State, MS 39762

P. 662.325.3120
F. 662.325.7939
www.biology.msstate.edu

February 17, 2025

To whom it may concern:

The Department of Biological Sciences is submitting this letter in support of the development of a minor in Applied Neuroscience. We support the use of our courses in this proposed curriculum option. Although we expect the proposed minor will be of interest to a number of students, we do not anticipate that enrollments in any necessary courses will increase from inclusion in this new track, or affect the availability of any courses for other students or the way we offer them. We are happy to help provide a new pathway for students that provides novel options as they consider their future career goals.

Sincerely,

Angus Dawe

Digitally signed by Angus Dawe
Date: 2025.02.17 17:11:57 -06'00'

Angus L. Dawe, Ph.D.
Professor
Department Head

Evan L. Kaplan
2025.02.18 09:38:58 -06'00'

Evan Kaplan, Ph.D.
Assistant Teaching Professor
Chair, Biological Sciences Curriculum Committee

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

Stephen A. Torri
CSE Committee on Courses and Curricula Computer Science and Engineering
Mississippi State University
665 George Perry Street
Box 9637
Mississippi State, MS 39762

February 17, 2025

Dr. Perkins,

To Whom It May Concern,

The faculty of the Computer Science and Engineering (CSE) department has officially approved the Minor in Applied Neuroscience. As a department, we support the use of the following Computer Science and Engineering courses as electives for this minor degree:

- CSE 4433 - Virtual and Extended Reality
- CSE 4633 - Artificial Intelligence
- CSE 4643 - AI Robotics
- CSE 4663 - Human-Computer Interaction
- CSE 4683 - Machine Learning and Soft Computing

Online enrollment may be necessary for non-majors due to the need to meet major matriculation needs. Overrides can be given on a case-by-case basis as needed during other instructional periods.

Please feel free to contact me if you have any questions or concerns.

Stephen A. Torri
Committee Chair
Associate Professor

Jingdao Chen, Ph.D.
Committee Member
Assistant Professor

Kortni Neal
Committee Member
Instructor

Joshua Crowson
Committee Member
Instructor

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF KINESIOLOGY
P.O. Box 6186
6th Floor Rice Hall
Mississippi State, MS 39762
P. 662.325.2963
F. 662.325.4525
www.kinesiology.msstate.edu

February 14, 2025

To whom it may concern:

I am writing in support of Minor in Applied Neuroscience. As a department, we support the use of the following Kinesiology courses as electives:

- EP 4703: Neural Control of Human Movement
- PE 3223: Motor Development and Movement
- PE 4853: Motor Learning and Skill Analysis

Online enrollment may be necessary for non-kinesiology majors due to the need to meet Kinesiology major matriculation needs. Overrides can given on a case by case basis as per need during other instructional periods.

Please do not hesitate to contact me for any further information or clarification.

Sincerely,

John Eric W. Smith, PhD

JohnEric W. Smith, Ph.D.
Department Head | Associate Professor
Department of Kinesiology
Mississippi State University

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES
Department of Philosophy & Religion

233 Lee Blvd
P.O. Box JS
Mississippi State, MS 39762

P. 662.325.2382
F. 662.325.3340
www.philosophyandreligion.msstate.edu

February 21, 2025

Members of the UCCC:

The Department of Philosophy and Religion supports the Minor in Applied Neuroscience, including the use of PHI 4223/6223 Philosophy of Cognitive Science as an elective for that program.

Sincerely,

J. Robert Thompson, Ph.D.
Head
Department of Philosophy and Religion

Alicia Hall

Dr. Alicia Hall, Ph.D.
Chair, Department of Philosophy and Religion Curriculum Committee

MISSISSIPPI STATE UNIVERSITY.

DEPARTMENT OF POULTRY SCIENCE
P. O. Box 9665
Mississippi State, MS 39762
P. 662.325.3416
poultry.msstate.edu

Date: February 11th, 2025

To: Dr. Ken Macklin, Department Head
From: Dr. Jessica Wells, Curriculum Committee Chair

Re: Minor in Applied Neuroscience

Dear Dr. Macklin,

This letter serves as verification that the Curriculum Committee supports the Minor in Applied Neuroscience. As a department, we support the use of the following Poultry Science course as an elective:

- PO 3103 - Genetics

Online enrollment may be necessary for non-majors due to the need to meet major matriculation needs. Overrides can be given on a case-by-case basis as per need during other instructional periods.

Sincerely,

Jessica Wells

Digitally signed by Jessica Wells
Date: 2025.02.17 11:57:02 -06'00'

Jessica Wells, PhD
Chair

MISSISSIPPI STATE UNIVERSITY

To: University Committee on Courses and Curricula
From: Department of Psychology
Date: February 18, 2025

Dear UCCC Committee Members:

The Department of Psychology enthusiastically supports the proposed **Minor in Applied Neuroscience**, submitted by the Neuroscience Organizing Committee and to be housed within our department. Members of the Psychology Undergraduate Committee have reviewed the proposal and fully endorse its implementation.

The Applied Neuroscience Minor aligns closely with the Department of Psychology's mission to advance interdisciplinary education and research. The curriculum leverages existing strengths in our course offerings, including courses such as **Biological Psychology (PSY 4403)**, **Cognitive Psychology (PSY 3713)**, and **Cognitive Neuroscience (PSY 4413)**, as well as electives that intersect with psychology, neurotechnology, and cognitive science. This program will provide students with a robust foundation in neuroscience principles while fostering connections to emerging fields such as artificial intelligence, biomedical engineering, and human-computer interaction.

We commend the proposal's structured governance model, including the Applied Neuroscience Curriculum Committee (ANCC), which ensures interdisciplinary collaboration and curricular rigor. As the administrative home for the minor, the Department of Psychology is committed to supporting the ANCC's efforts to maintain high academic standards and adapt to advancements in neuroscience education.

The integration of psychology courses into this minor underscores our department's role in bridging theoretical and applied science. We are confident this program will enhance student opportunities for research, interdisciplinary study, and career readiness in a rapidly evolving field.

Thank you for your consideration of this proposal. Please do not hesitate to contact us with any questions.

Sincerely,

Danielle Nadorff, Ph.D. (Committee chair)

Danielle K. Nadorff, Ph.D. Digitally signed by Danielle K. Nadorff, Ph.D. Date: 2025.02.18 16:02:28 -06'00'

Allison Jaegar Berena, Ph.D. (Committee member)

Allison Jaeger Digitally signed by Allison Jaeger Date: 2025.02.19 10:26:54 -06'00'

Jonathan Black, M.S. (Committee member)

2-19-2025

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 Arts & Science **Department:** Sociology

Contact Person: Ashley Vancil-Leap **Mail Stop:** 9562 **E-mail:** adv102@msstate.edu

Nature of Change: Modification **Date Initiated:** January 17,2025

Current Degree (BS, MS, etc.): Bachelor of Science

Current Major: Applied sociology

Current Concentration(s): N/A

Current Campus(es): ☐ Starkville ☐ Meridian ☑ Distance ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): _____

Effective Date:

Semester	Year
Fall	2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: _____

Proposed Concentration(s): _____

Proposed Campus(es)

☐ Starkville
☐ Meridian
☐ Distance
☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

We are requesting modifications to the general education requirements for the Applied Sociology program to align them with the University and College expectations for a B.S. degree. When we initially developed the Applied Sociology program, we inadvertently based its general education requirements on the B.A. degree requirements. Additionally, we request minor grammatical updates to the Applied Sociology section of the catalog.

Approved:	Date:
Department Head	1/16/25
Director of Academic Quality	2/3/25
Chair, College or School Curriculum Committee	1/25/25
Dean of College or School	2/3/25
Chair, University Committee on Courses and Curricula (Digitally signed by Andy D. Perkins Date: 2025.05.29 14:33:19 -05'00')	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	June 12th, 2025

DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing undergraduate degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Include the course prefix, number, and title in both columns. Expand this table as needed.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Science Major: Applied Sociology Concentration: N/A	Degree: Bachelor of Science Major: Applied Sociology Concentration: N/A
The following degree program is offered: Bachelor of Science Applied Sociology majors are well prepared to enter many rewarding positions in the workforce right out of college or further graduate training in law, business, community planning, architecture, medicine, politics, or academics. Opportunities for employment include, but are not restricted to entry-level positions in administration, advertising, banking, counseling (family planning, career, substance abuse, etc*.*), health services, journalism, group and recreation work, marketing and market research, sales, non-profit organizations, teaching, criminal justice, social services, and social research. In addition, applied sociology provides training that other liberal arts majors do not, such as the core elements of research methods and the training for research analyst positions in real-world settings. All new freshmen desiring to major in Applied Sociology will be admitted into the Applied Sociology major in the College of Arts and Sciences at Mississippi State University. For all other students wishing to major in Applied Sociology, to be eligible for admission to the Applied Sociology program, students must have a cumulative GPA of 2.0 or above on all college work attempted prior to entering the major. The criteria for remaining in the program include: 1. Students must earn *an* minimum of a	The following degree program is offered: Bachelor of Science Applied Sociology majors are well prepared to enter many rewarding positions in the workforce right out of college or further graduate training in law, business, community planning, architecture, medicine, politics, or academics. Opportunities for employment include, but are not restricted to entry-level positions in administration, advertising, banking, counseling (family planning, career, substance abuse, etc**.**), health services, journalism, group and recreation work, marketing and market research, sales, non-profit organizations, teaching, criminal justice, social services, and social research. In addition, applied sociology provides training that other liberal arts majors do not, such as the core elements of research methods and the training for research analyst positions in real-world settings. All new freshmen desiring to major in Applied Sociology will be admitted into the Applied Sociology major in the College of Arts and Sciences at Mississippi State University. For all other students wishing to major in Applied Sociology, to be eligible for admission to the Applied Sociology program, students must have a cumulative GPA of 2.0 or above on all college work attempted prior to entering the major. The criteria for remaining in the program include: 1. Students must earn **a** minimum of a "C" in all Applied Sociology courses. Students earning a grade lower than **a**

"C" in all Applied Sociology courses. Students earning a grade lower than C in an Applied Sociology course must retake that course. 2. Students must maintain an overall GPA of 2.0 or above. Students who fall below the overall GPA of 2.0 must bring it up to 2.0 the next semester or drop the Applied Sociology major.	**"C" in an Applied Sociology course must retake that course.** 2. Students must maintain an overall GPA of 2.0 or above. Students who fall below the overall GPA of 2.0 must bring it up to 2.0 the next semester or drop the Applied Sociology major. **Students who wish to major in Applied Sociology should plan their programs with the departmental major advisor as soon as possible after entering the University and should consult with their advisor before each registration period. The program is arranged individually to combine the most varied advantages consistent with the student's interests and purposes. Advisors will also guide students in course selection to ensure they meet the 124-credit hour graduation requirement, including selecting general electives and lab science courses that align with their academic goals and credit needs. Additionally, students must complete 31 upper-division credit hours in the College of Arts & Sciences. Advisors will work closely with students to help them identify upper-division coursework to satisfy this requirement.**

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
English:		English:	
EN 1103 English Composition I	3	EN 1103 English Composition I	3
EN 1113 English Composition II	3	EN 1113 English Composition II	3
Fine Arts:		Fine Arts:	
A&S Core	3	A&S Core	3
Humanities:		Humanities:	
Literature – A&S Core	3	Literature – A&S Core	3
History – A&S Core	3	History – A&S Core	3
Philosophy– A&S core	3	Philosophy– A&S core	3
Humanities Elective [1]	*9*		
Social/Behavioral Sciences:		Social/Behavioral Sciences:	
Social Science– A&S core	6	Social Science– A&S core	6
Social Science Electives[2]	12		
Mathematics:		Mathematics:	
MA 1313 College Algebra	3	MA 1313 College Algebra	3
MA/ST 2113 Introduction to Statistics	3	MA/ST 2113 Introduction to Statistics	3
Natural Sciences:		Natural Sciences:	
Physical Science w/ lab– A&S core	3-4	Physical Science w/ lab– A&S core	3-4
Life Science w/ lab– A&S core	3-4	Life Science w/ lab– A&S core	3-4

Natural Science Elective– A&S core	3-4	Natural Science Elective– A&S core	3-4
Foreign Language: Foreign Language I Foreign Language II *Foreign Language III*	 3 3 *3*	Foreign Language: Foreign Language I Foreign Language II	 3 3
Oral Communication: CO 1003 Fundamentals of Public Speaking or CO 1013 Introduction to Communication	 3	Oral Communication: CO 1003 Fundamentals of Public Speaking or CO 1013 Introduction to Communication	 3
General Electives: Consult advisor	 *10-13*	General Electives: Consult advisor	 **22-25**
		Additional Requirements: Social Science Electives[1]	 12
Major Core Courses: ASO 1003 Introduction to Applied Sociology SO 1103 Contemporary Social Problems SO 3003 Social Inequality SO 3053 Organizations in Modern Society ASO 3213 Applied Sociology Research Methods ASO 4803 Applied Sociology Capstone Course	 3 3 3 3 3	Major Core Courses: ASO 1003 Introduction to Applied Sociology SO 1103 Contemporary Social Problems SO 3003 Social Inequality SO 3053 Organizations in Modern Society ASO 3213 Applied Sociology Research Methods ASO 4803 Applied Sociology Capstone Course	 3 3 3 3 3
Electives Social Problems in Society: Choose 2 of the following: SO 3703 Racial and Ethnic Inequality SO 4273 Sociology of Education SO 4423 Health and Society SO 4703 Population Problems and Processes CRM 3103 Contemporary Issues in Criminal Justice	 6	Electives Social Problems in Society: Choose 2 of the following: SO 3703 Racial and Ethnic Inequality SO 4273 Sociology of Education SO 4423 Health and Society SO 4703 Population Problems and Processes CRM 3103 Contemporary Issues in Criminal Justice	 6
Community, Policy, and Practice: Choose 2 of the following: SO 4123 Poverty Analysis ASO 4153 Internship in Applied Sociology SO 4503 Gender and Work SO 4733 Community: Organization and Relationships CRM 3113 Community Crime Prevention and Policy	 6	Community, Policy, and Practice: Choose 2 of the following: SO 4123 Poverty Analysis ASO 4153 Internship in Applied Sociology SO 4503 Gender and Work SO 4733 Community: Organization and Relationships CRM 3113 Community Crime Prevention and Policy	 6
Applied Sociological Methods: Choose 2 of the following: ASO 3103 Program Evaluation ASO 3203 Survey Design and Evaluation ASO 4103 Applied Data Management ASO 4203 Focus Groups and	 6	Applied Sociological Methods: Choose 2 of the following: ASO 3103 Program Evaluation ASO 3203 Survey Design and Evaluation ASO 4103 Applied Data Management ASO 4203 Focus Groups and Interviewing GR 4303 Principles of GIS	 6

Interviewing GR 4303 Principles of GIS			
Free Elective: Choose 1 course Student may choose any SO, ASO, SW, or CRM course.	3	Free Elective: Choose 1 course Student may choose any SO, ASO, SW, or CRM course.	3
Jr/Sr Writing: Satisfied with ASO 4803 in the major		Jr/Sr Writing: Satisfied with ASO 4803 in the major	
Total Hours	124	Total Hours	124
Note: Students must complete 31 upper division hours in A&S at MSU. [1] *Humanities electives must be courses in A&S and must cover two disciplines.* [2] Social Science electives must be courses in A&S. The total 18 hours in Social Science must cover four disciplines; maximum of 6 hours per discipline; only one EC and one CO from A&S core list allowed across the 18 hours.		Note: Students must complete 31 upper division hours in A&S at MSU. [1] Social Science electives must be courses in A&S. The total 18 hours in Social Science must cover four disciplines: maximum of 6 hours per discipline; only one EC and one CO from A&S core list allowed across the 18 hours.	

STUDENT LEARNING OUTCOMES AND ASSESSMENT:

The student learning outcomes and assessment will not be impacted by this modification request. The original student learning outcomes and assessment are as follows:

Students will be required to complete a minimum of 124 hours of course work. This includes the university/A&S core curriculum and the required Applied Sociology courses. Together, the program of study seeks to provide students with a well-rounded curriculum that will help them develop an integrated understanding of applied sociology and equip them with the core knowledge and skills needed in applied careers.

The specific desired student learning outcomes are provided below. These outcomes are aligned with the College of Arts and Science learning objectives and reflect the knowledge and skills valued by applied sociology employers.

Critical Thinking and Problem Solving:

- Students will apply analytical, critical, and logical reasoning skills to generate solutions for complex problems in real-world settings.
- Students will analyze logistics and related processes to improve research methods and enhance decision making.
- Students will demonstrate an understanding of key concepts and methodologies and the ability to consider related decisions from a holistic perspective.

Data Analysis:

- Students will utilize applied sociology research techniques to analyze data, support decision making, and generate solutions for complex problems in real-world settings.

Communication:

- Students will demonstrate strong written and oral communication skills.

Multiple methods will be used to evaluate student learning and program effectiveness:

- Student learning will be assessed through course assessments (exams, quizzes, homework, and projects).
- The Office of Institutional Effectiveness at MSU conducts exit surveys of graduates and tracks admission, retention, graduation, and graduate placement rates that will be used to evaluate the program's effectiveness.
- The College of Arts and Science utilizes a variety of measures to assess student learning that will also be used to help evaluate the program's effectiveness.
- The Center for Distance Education utilizes a variety of measures to assess student learning that will also be used to help evaluate the program's effectiveness.
- Surveys and active engagement with employers and recent graduates will be used to monitor needs and assess (and if needed) adjust program content.

JUSTIFICATION:

We are requesting modifications to the general education requirements for the Applied Sociology program to align them with the University and College expectations for a B.S. degree. When we initially developed the Applied Sociology program, we inadvertently based its general education requirements on the B.A. degree requirements (similar to those in the on-campus Starkville program). We now seek to update these requirements to meet the standards expected by students, faculty, and employers for a B.S. degree. Additionally, we request minor grammatical updates to the Applied Sociology section of the academic catalog. Details of the proposed changes are provided below:

Catalog Description Updates:

1. The online catalog contains minor grammatical errors. For example, the comma after "etc." in parentheses should be replaced with a period.
2. A grammatical correction is needed for Point 1: currently, it states, "Students must earn an minimum of a 'C' in all Applied Sociology courses." It should be corrected to "Students must earn a minimum of a 'C' in all Applied Sociology courses."
3. Another clarification for Point 1: it should specify, "Students earning a grade lower than a 'C' in an Applied Sociology course must retake that course."
4. A statement on advising has been added to the Catalog Description.

General Elective Updates:

1. Removed the foreign language III requirement, as per B.S. degree expectations.
2. Removed 9 credits of humanities electives, in alignment with B.S. degree standards.
3. Increased the number of general elective hours to reflect these adjustments.
4. The Notes section was updated to reflect the deletion of note #1 and update the notes numbers.

5. The 12 credits in Social Science Elective has been moved from the Social Science section to an “Additional Requirements” section in the table.

SUPPORT:

The modification has the support of the Department of Sociology. Please see the attached letter of support.

4-LETTER ABBREVIATION: ASOC

EFFECTIVE DATE: Fall 2025

CIP NUMBER: 45.1101

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES

Department of Sociology
P.O. Box C
456 Hardy Road/207 Bowen Hall
Mississippi State, MS 39762
P. 662.325.2495
F. 662.325.4564
www.sociology.msstate.edu

December 6, 2024

Dear University Committee on Courses and Curriculum,

On behalf of the Department of Sociology, please accept this letter of support for the program modification to the B.S. in Applied Sociology online program. The B.S. in Applied Sociology was originally approved with a set of general electives that mirrors B.A. requirements and not B.S. requirements. Thus, the Department of Sociology is requesting to update the general electives to reflect B.S. expectations. Additionally, there are minor grammatical updates the department would like to make to the Academic Catalogue for Applied Sociology. During our faculty meeting on Friday, December 6th, the Department of Sociology faculty voted unanimously to support this program modification to Applied Sociology. We believe it is important to update our general electives to reflect what is expected of a B.S. degree and to update any grammatical errors.

Should you have any questions or require additional information, please feel free to contact Dr. Ashley Vancil-Leap, Chair of the Undergraduate Curriculum and Policies Committee, at your convenience.

Sincerely,

Department of Sociology, Criminology and Social Work
Undergraduate Curriculum and Policies Committee

Ashley Vancil-Leap (Chair)

Raymond Barranco

Robert Boyd

Dana Dillard

Margaret Ralston

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 Arts and Sciences **Department:** CMLL

Contact Person: Kelly Moser **Mail Stop:** _____ **E-mail:** kellymoser@cmll.msstate.edu

Nature of Change: Modification **Date Initiated:** 2-11-25

Current Degree (BS, MS, etc.): Master of Arts

Current Major: Foreign Languages

Current Concentration(s): _____

Current Campus(es): ☑ **Starkville** ☐ **Meridian** ☐ **Distance** ☐ **Gulf Coast***

*Gulf Coast campus for Bagley College of Engineering onl

New Degree (BS, MS, etc.): No change

Effective Date:

Semester	**Year**
Fall	2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: No change

Proposed Concentration(s): No change

Proposed Campus(es)

- ☐ Starkville
- ☐ Meridian
- ☐ Distance
- ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering c

Summary of Proposed Changes:

The attached degree modification is to clean up some of the language in the catalog, reflecting Graduate School changes related to 8000 level classes. It also includes a change in the the minimum number of hours taken in the target language (e.g. French, German, Spanish: from 21 to 24 hours) required of students seeking the degree. Two minor typos in the footnotes are also corrected.

Approved:	Date:
Robert West Digitally signed by Robert West Date: 2025.03.03 12:06:15 06'00'	March 3, 2025
Department Head	
Dana Pomykal Franz	3/5/2025
Director of Academic Quality	
Alicia Hall	4/11/25
Chair, College or School Curriculum Committee	
[signature]	4/11/25
Dean of College or School	
Russell Carr Digitally signed by Russell Carr Date: 2025.05.22 17:22:17 -05'00'	5/22/25
Chair, University Committee on Courses and Curricula	
Digitally signed by Andy D. Perkins Date: 2025.05.29 14:33:33 -05'00'	
Chair, Graduate Council (if applicable)	
Liam Ryan	June 12th, 2025
Chair, Deans Council	

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

MASTER OF ARTS IN FOREIGN LANGUAGES

1. CATALOG DESCRIPTION

Graduate study is offered in the Department of Classical & Modern Languages and Literatures leading to the degree of Master of Arts. Areas of study are French, German, and Spanish. The degree program is offered on the Starkville campus.

Students enrolled in the program can choose between a thesis or non-thesis track. A minimum of **24** graduate hours taught in one target language must be taken for both the thesis and non-thesis tracks. Students may pursue study in two languages if they have indicated this intent during the application process, requiring a minimum of 18 hours, **rather than 24,** in each of the chosen languages.

For the thesis track, a minimum of 9 hours must be taken at the 8000-level. For the non-thesis option, a minimum of 12 hours must be at the 8000-level. Up to 6 credit hours of Directed Individual Study credits (FL 7000) may be counted toward the 8000-level requirement. Also required for the degree is a comprehensive written and oral examination based upon all coursework taken and a departmental graduate reading list. Thesis students will also defend their thesis during the comprehensive oral examination.

2. CURRICULUM OUTLINE

CURRENT Degree Description	PROPOSED Degree Description
Degree: Master of Arts Major: Foreign Languages	Degree: Master of Arts Major: Foreign Languages
Graduate study is offered in the Department of Classical & Modern Languages and Literatures leading to the degree of Master of Arts. Areas of study are French, German, and Spanish. The degree program is offered on the Starkville campus. *Thesis and non-thesis options are available. A minimum of 21 graduate-level semester hours taught in one target language must be taken for the thesis or non-thesis M.A.; options, except for students pursuing study in two languages. Students may pursue study in two languages by taking a minimum of 18 hours in each language.* *For the thesis option, a minimum of 12 hours must be taken at the 8000-level. For the non-thesis option, a minimum of 15 hours must be at the 8000-level.* Up to 6 credit hours of Directed Individual Study credits (FL 7000) may be counted toward the 8000-level requirement. Also required for the degree is a comprehensive written and oral examination based upon all coursework taken and a departmental graduate reading list. Thesis students will also defend their thesis during the comprehensive oral examination.	Graduate study is offered in the Department of Classical & Modern Languages and Literatures leading to the degree of Master of Arts. Areas of study are French, German, and Spanish. The degree program is offered on the Starkville campus. **Students enrolled in the program can choose between a thesis or non-thesis track. A minimum of 24 graduate hours taught in one target language must be taken for both the thesis and non-thesis tracks. Students may pursue study in two languages if they have indicated this intent during the application process, requiring a minimum of 18 hours, rather than 24, in each of the chosen languages.** **For the thesis track, a minimum of 9 hours must be taken at the 8000-level. For the non-thesis option, a minimum of 12 hours must be at the 8000-level.** Up to 6 credit hours of Directed Individual Study credits (FL 7000) may be counted toward the 8000-level requirement. Also required for the degree is a comprehensive written and oral examination based upon all coursework taken and a departmental graduate reading list. Thesis students will also defend their thesis during the comprehensive oral examination.

CURRENT CURRICULUM OUTLINE	Required hours	PROPOSED CURRICULUM OUTLINE	Required hours
MASTER OF ARTS – THESIS		MASTER OF ARTS – THESIS	
FL XXXX Graduate language courses in chosen area of study[1]	*21*	FL XXXX Graduate language courses in chosen area of study[1]	**24**
Additional graduate-level coursework	*3*	Research/thesis[2]	6
Research/thesis[2]	*6*	Total Hours	30
Total Hours	30		
[1] Students are encouraged to take FL 8113 Capstone Seminar, FL 8023 Introduction to Literary Criticism, FL 8793 Foreign Language Planning, Instruction, and Assessment, and FL 8333 Cultural Studies and/or FL 8693 Advanced Foreign Language Pedagogy.		[1] Students are encouraged to take FL 8113 Capstone Seminar, FL 8023 Introduction to Literary Criticism, FL 8793 Foreign Language Planning, Instruction, and Assessment, and FL 8333 Cultural Studies and/or FL 8693 Advanced Foreign Language Pedagogy.	
[2] *Requires n oral defense* of the thesis, given during the comprehensive oral examination.		[2] **Requires an oral defense** of the thesis, given during the comprehensive oral examination.	
Note: If students pursue study in two languages, *they are are required* to have a minimum of 18 hours at the graduate level in each language, for a total of 36 hours.		Note: If students pursue study in two languages, **they are required** to have a minimum of 18 hours at the graduate level in each language, for a total of 36 hours.	
MASTER OF ARTS – NON-THESIS		MASTER OF ARTS – NON-THESIS	
FL XXXX Graduate-level courses in chosen area of study	*21*	FL XXXX Graduate-level courses in chosen area of study	**24**
FL XXXX or additional graduate-level coursework[1]	*12*	FL XXXX or additional graduate-level coursework[1]	**9**
Total Hours	33	Total Hours	33
[1] Students are encouraged to continue taking coursework in their area of study. Students are encouraged to take FL 8113 Capstone Seminar, FL 8023 Introduction to Literary Criticism, FL 8793 Foreign Language Planning, Instruction, and Assessment, FL 8333 Cultural Studies and/or FL 8693 Advanced Foreign Language Pedagogy. *Students are also encouraged to work in a minor field such as (but not limited to) History, Education, and Teaching of English as a Second Language.*		[1] Students are encouraged to continue taking coursework in their area of study. Students are encouraged to take FL 8113 Capstone Seminar, FL 8023 Introduction to Literary Criticism, FL 8793 Foreign Language Planning, Instruction, and Assessment, FL 8333 Cultural Studies and/or FL 8693 Advanced Foreign Language Pedagogy.	

Note: If students pursue study in two languages, they are required to have a minimum of 18 hours at the graduate level in each language, for a total of 36 hours.		Note: If students pursue study in two languages, they are required to have a minimum of 18 hours at the graduate level in each language, for a total of 36 hours.	

3. JUSTIFICATION AND LEARNING OUTCOMES

This degree modification includes a minor change in the catalog description to provide a clear introduction to the degree that students would earn by completing coursework in the department at the graduate level. The learning outcomes remain unchanged. Students will be able to:

- use extended discourse (multi-paragraph) in the target language on theoretical topics, consistent with the superior level of proficiency in the American Council on the Teaching of Foreign Languages (ACTFL) guidelines. In each course, learners will speak and write about multiple types of texts from transdisciplinary perspectives.
- collaborate with one another and their instructors to build class cohesion, appreciate divergent viewpoints, and foster intercultural competence
- demonstrate their understanding of major and minor works in the literary traditions connected to their chosen field of study by presenting material in a variety of ways (e.g., critical analyses of texts, academic research, presentations that prepare them for their specific fields of study, etc.)
- apply their knowledge of language, literature, culture and film to other areas of study (e.g., business, education, politics, etc.)

4. SUPPORT

Please see the attached letter of support.

5. PROPOSED 4-LETTER ABBREVIATION

The abbreviation for the program will remain FL.

6. EFFECTIVE DATE

Fall 2025

CLASSICAL & MODERN LANGUAGES AND LITERATURES
P.O. Box FL
1501 Lee Hall
Mississippi State, MS 39762
P. 662.325.3480
www.cmll.msstate.edu

Friday, February 28, 2025

Members of the UCCC:

The Curriculum Committee for Classical & Modern Languages and Literatures, following the recommendation of the graduate faculty of CMLL, approves of the attached modification to the Master's degree in Foreign Language. Please do not hesitate to contact us if you have any questions or concerns.

Sincerely,
The members of the CMLL Curriculum Committee

Dr. Brian Davisson, Chair

Dr. Scott DiGiulio

Dr. Robert Harland

Dr. Steffi Hung

Dr. Edward Potter 03/03/25

Dr. Karim Simpore

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 Arts & Sciences **Department:**

Contact Person: Melanie Loehwing **Mail Stop:** 9706 **E-mail:** mel399@msstate.edu

Nature of Change: Modification **Date Initiated:** 4/2/25

Current Degree (BS, MS, etc.): BA

Current Major: Liberal Arts

Current Concentration(s): Political Communication, Environmental Justice, International Studies, Linguistics, Gender Studies

Current Campus(es): ☑ Starkville ☐ Meridian ☐ Distance ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): BA

Effective Date:

Semester	Year
Fall	2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: Liberal Arts

Proposed Concentration(s): Political Communication, Environmental Justice, International Studies, Linguistics, Gender Studies, African American Studies

Proposed Campus(es)

- ☑ Starkville
- ☐ Meridian
- ☐ Distance
- ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

-Adding one new course option to Environmental Justice Concentration
-Adding new optional concentration in African American Studies

Approved: **Date:**

Department Head — 4/9/2025

Director of Academic Quality — 4/9/2025

Chair, College or School Curriculum Committee — 4/15/2025

Dean of College or School — 4/15/25

Chair, University Committee on Courses and Curricula — Digitally signed by Andy D. Perkins Date: 2025.05.29 14:33:45 -05'00'

Chair, Graduate Council (if applicable)

Chair, Deans Council — June 12th, 2025

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

1. Catalog Description

The existing BALA catalog description will only be edited to add a description of the proposed new concentration option. See curriculum outline below.

2. Proposed Curriculum Outline

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Arts Major: Liberal Arts Concentration: Political Communication, Environmental Justice, International Studies, Linguistics, Gender Studies	Degree: Bachelor of Arts Major: Liberal Arts Concentrations: Political Communication, Environmental Justice, International Studies, Linguistics, Gender Studies, **African American Studies**
The College of Arts and Sciences recognizes that students' interests may include more than one discipline and that some majors are not formally available at MSU. Students who prefer to specialize in more than one field of study may earn a B.A. degree in Liberal Arts (BALA). Through BALA, students can pursue a major that crosses two or more disciplines offered in the College of Arts and Sciences. The BALA degree requires satisfactory completion of the following: 1. University General Education and College Core curriculum; 2. College of Arts & Sciences B.A. requirements; 3. Satisfactory completion of the BALA major core; 4. A total of 121 semester hours; 5. A 200-word minimum exit essay; The BALA major core consists of IDS 2111, GLA 4001, and a program of study consisting of at least 36 upper-division hours in approved emphasis areas. Each BALA program of study must consist of a broad, but coherent pattern of courses in 2-4 disciplines within the College of Arts and Sciences. These disciplines make up the emphasis areas within a student's program of study. Students may propose an individualized combination of emphasis areas, or they may select a preestablished concentration pathway that specifies the emphasis areas they must complete. Each emphasis area must comprise at least 9 hours of upper-division coursework in that discipline, and a minimum GPA of 2.0 is required in each area of emphasis. Students seeking admission to the BALA major will be required to submit an application to be reviewed by the Liberal Arts committee. BALA applications must contain the following: competed BALA application form (see BALA advisor); student's proposed program of study; a 100-word minimum entrance essay.	The College of Arts and Sciences recognizes that students' interests may include more than one discipline and that some majors are not formally available at MSU. Students who prefer to specialize in more than one field of study may earn a B.A. degree in Liberal Arts (BALA). Through BALA, students can pursue a major that crosses two or more disciplines offered in the College of Arts and Sciences. The BALA degree requires satisfactory completion of the following: 1. University General Education and College Core curriculum; 2. College of Arts & Sciences B.A. requirements; 3. Satisfactory completion of the BALA major core; 4. A total of 121 semester hours; 5. A 200-word minimum exit essay; The BALA major core consists of IDS 2111, GLA 4001, and a program of study consisting of at least 36 upper-division hours in approved emphasis areas. Each BALA program of study must consist of a broad, but coherent pattern of courses in 2-4 disciplines within the College of Arts and Sciences. These disciplines make up the emphasis areas within a student's program of study. Students may propose an individualized combination of emphasis areas, or they may select a preestablished concentration pathway that specifies the emphasis areas they must complete. Each emphasis area must comprise at least 9 hours of upper-division coursework in that discipline, and a minimum GPA of 2.0 is required in each area of emphasis. Students seeking admission to the BALA major will be required to submit an application to be reviewed by the Liberal Arts committee. BALA applications must contain the following: competed BALA application form (see BALA advisor); student's proposed program of study; a 100-word minimum entrance essay.

To ensure an orderly progression of work toward the degree, interested students should meet with the program's advisor as early as possible.

Liberal Arts is not suitable for students who are uncertain about their choice of a major; these students should see the Undeclared listing in the Academic Affairs section.

Political Communication Concentration

The Political Communication Concentration combines coursework in Political Science and Communication and Media Studies. It prepares students for careers in campaigning, public address and public affairs, and any public-facing roles related to governmental agencies and policymaking. The Political Communication Concentration is particularly useful for students who want to pursue law school or professional careers in legislation, campaigning, lobbying, and community outreach.

Environmental Justice Concentration

Environmental Justice explores the causes and consequences of inequitable distributions of environmental benefits and hazards. It investigates the ethical, political, economic, legal, and sociological aspects of environmental issues, as well as provides students with sufficient natural science background to understand and explain human impacts on the natural world. Our course of study aims to give students an interdisciplinary perspective on the environmental and the social in tandem and how to redress environmental harms meaningfully, effectively, and fairly. The Environmental Justice Concentration is particularly useful for students pursuing careers in fields relating to sustainability, environmental planning, environmental law, and environmental policy.

International Studies Concentration

The International Studies Concentration combines coursework in the social sciences, humanities, and foreign languages to give students a well-rounded understanding of how political, economic, and social changes around the world impact our lives. International Studies is an increasingly popular area of study for students interested in careers in business, national security, politics, and the non-profit sector. It equips students with extensive knowledge of international institutions, the history, cultures, and politics of different regions of the world, and training in languages spoken around the world.

Linguistics Concentration

Linguistics is the study of language, including the structure of sounds, words, and sentences, how our brains process it, how people learn it, and the roles it plays in our societies. Studying

To ensure an orderly progression of work toward the degree, interested students should meet with the program's advisor as early as possible.

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Environmental Justice Concentration

Environmental Justice explores the causes and consequences of inequitable distributions of environmental benefits and hazards. It investigates the ethical, political, economic, legal, and sociological aspects of environmental issues, as well as provides students with sufficient natural science background to understand and explain human impacts on the natural world. Our course of study aims to give students an interdisciplinary perspective on the environmental and the social in tandem and how to redress environmental harms meaningfully, effectively, and fairly. The Environmental Justice Concentration is particularly useful for students pursuing careers in fields relating to sustainability, environmental planning, environmental law, and environmental policy.

International Studies Concentration

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Linguistics Concentration

Linguistics is the study of language, including the structure of sounds, words, and sentences, how our brains process it, how

linguistics teaches students to analyze patterns in the language of their daily lives and can contribute to careers such as language teaching, editing and publishing, speech therapy, advertising, and more. Only grades of C or higher will be accepted for courses in the emphasis areas for the Linguistics Concentration. Gender Studies Concentration This concentration emphasizes different approaches to understanding gender and sexuality from different disciplinary perspectives. Students take courses in communication studies, English, world literatures, psychology, sociology, and sports studies. Courses emphasize how gender and sexuality are social constructions subject to change and interpretation over time and across cultures, and how inequalities tied to gender and sexuality are explained and addressed from different vantage points. This concentration also emphasizes empirical studies of gender as a form of identity, lived experience, and social inequality. Students draw upon course work in communication studies, criminology, history, political science, sociology, and social work. Courses emphasize the role of media, crime and the criminal justice system, historical constructions of gender, politics, and social problems and the responses to these problems in articulating how key social institutions and culture shape individual lives and societies.	people learn it, and the roles it plays in our societies. Studying linguistics teaches students to analyze patterns in the language of their daily lives and can contribute to careers such as language teaching, editing and publishing, speech therapy, advertising, and more. Only grades of C or higher will be accepted for courses in the emphasis areas for the Linguistics Concentration. Gender Studies Concentration This concentration emphasizes different approaches to understanding gender and sexuality from different disciplinary perspectives. Students take courses in communication studies, English, world literatures, psychology, sociology, and sports studies. Courses emphasize how gender and sexuality are social constructions subject to change and interpretation over time and across cultures, and how inequalities tied to gender and sexuality are explained and addressed from different vantage points. This concentration also emphasizes empirical studies of gender as a form of identity, lived experience, and social inequality. Students draw upon course work in communication studies, criminology, history, political science, sociology, and social work. Courses emphasize the role of media, crime and the criminal justice system, historical constructions of gender, politics, and social problems and the responses to these problems in articulating how key social institutions and culture shape individual lives and societies. **African American Studies Concentration** **The African American Studies concentration allows students to examine African American history and culture from multiple disciplinary perspectives. By taking courses in the humanities and the social sciences, students can pursue the study of African American culture and lived experience through an interdisciplinary critical framework that includes courses in sociology, literature, political science, psychology, anthropology, history and music. Students can take courses that consider the history of Southern politics alongside courses that examine the ideology of race and ethnicity, thereby allowing students to curate an interdisciplinary approach to African American studies that matches their own research interests and professional goals.**

CURRENT CURRICULUM OUTLINE	Required Hours	PROPOSED CURRICULUM OUTLINE	Required Hours
English Composition: EN 1103 English Composition I or EN 1104 Expanded English Composition I EN 1113 English Composition II or EN 1173 Accelerated Composition II	3 3	English Composition: EN 1103 English Composition I or EN 1104 Expanded English Composition I EN 1113 English Composition II or EN 1173 Accelerated Composition II	3 3
Foreign Language: Foreign Language I	3	Foreign Language: Foreign Language I	3

Foreign Language II Foreign Language III	3 3	Foreign Language II Foreign Language III	3 3
Humanities: Literature– A&S core History– A&S core Philosophy– A&S core Humanities Electives[1]	 3 3 3 9	Humanities: Literature– A&S core History– A&S core Philosophy– A&S core Humanities Electives[1]	 3 3 3 9
Quantitative Reasoning: A&S core[2]	 3	Quantitative Reasoning: A&S core[2]	 3
Fine Arts: A&S core	 3	Fine Arts: A&S core	 3
Natural Sciences: Physical Science w/ lab – A&S core Life Science w/ lab – A&S core Natural Science Elective – A&S core	 3-4 3-4 3-4	Natural Sciences: Physical Science w/ lab – A&S core Life Science w/ lab – A&S core[2] Natural Science Elective – A&S core	 3-4 3-4 3-4
Social Sciences: A&S core[2] *Social Science Electives[3]*	 6 12	Social Sciences: A&S core[2] **Social Science Electives[2, 3]**	 6 12
Major Core: IDS 2111 Intro to Interdisciplinary Studies GLA 4001 Senior Project Emphasis Area Courses[4, 5]	 1 1 36	Major Core: IDS 2111 Intro to Interdisciplinary Studies GLA 4001 Senior Project Emphasis Area Courses[4, 5]	 1 1 36
Oral Communication: CO 1003 Fundamentals of Public Speaking or CO 1013 Introduction to Communication[6]	 3	Oral Communication: CO 1003 Fundamentals of Public Speaking or CO 1013 Introduction to Communication[6]	 3
Jr/Sr Writing: Consult advisor; may be specified in emphasis areas or concentrations	 3-4	Jr/Sr Writing: Consult advisor; may be specified in emphasis areas or concentrations	 3-4
General Electives: *Consult advisor[7]*	*5-11*	**General Electives:** **Consult advisor[7]**	**7-14**
Total Hours	121	Total Hours	121
Note: Students must complete 31 upper-division hours in A&S in residence at MSU. [1] Humanities electives must be courses in A&S and must cover two disciplines. [2] Concentrations may require specific courses; see concentration and consult advisor. [3] Social Science electives must be courses in A&S. The total 18 hours in Social Science must cover four disciplines; maximum of 6 hours per		Note: Students must complete 31 upper-division hours in A&S in residence at MSU. [1] Humanities electives must be courses in A&S and must cover two disciplines. [2] Concentrations may require specific courses; see concentration and consult advisor. [3] Social Science electives must be courses in A&S. The total 18 hours in Social Science must cover four disciplines; maximum of 6 hours per	

discipline; only one EC and one CO from A&S core list allowed. [4] Concentrations require specific courses; see concentration and consult advisor. A minimum GPA of 2.0 is required in each area of emphasis. [5]Courses under concentrations may be substituted with a related course not listed with permission from the concentration sponsor. [6] Concentration may require CO 1003; consult advisor. [7] Concentrations may require other prerequisite coursework. Students should consult advisor and plan to take additional prerequisite courses as general electives.		discipline; only one EC and one CO from A&S core list allowed. [4] Concentrations require specific courses; see concentration and consult advisor. A minimum GPA of 2.0 is required in each area of emphasis. [5] Courses under concentrations may be substituted with a related course not listed with permission from the concentration sponsor. [6] Concentration may require CO 1003; consult advisor. [7] Concentrations may require other prerequisite coursework. Students should consult advisor and plan to take additional prerequisite courses as general electives.	
Political Communication Concentration Mathematics: MA/ST 2113 Introduction to Statistics Social Science: PS 1113 American Government CO 1223 Introduction to Communication Theory Oral Communication: CO 1003 Fundamentals of Public Speaking Jr/Sr Writing: PS 4464 Political Analysis Emphasis Area – Communication Choose 18 hours: CO 3803 Principles of Public Relations CO 4043 Communication and Leadership CO 4203 Nonverbal Communication CO 4213 Political Communication CO 4253 Elements of Persuasion CO 4313 Mass Media Law CO 3813 Public Relations Case Problems CO 3873 Public Relations Multimedia CO 3833 Interviewing CO 4273 Intercultural Communication Emphasis Area – Political Science Choose 18 hours: PS 3013 Political Leadership PS 3033 Gender and Politics PS 3063 Constitutional Powers PS 3073 Civil Liberties PS 3183 Law and Politics PS 4173 Legislative Process PS 4213 Campaign Politics PS 4283 Public Opinion		Political Communication Concentration Mathematics: MA/ST 2113 Introduction to Statistics Social Science: PS 1113 American Government CO 1223 Introduction to Communication Theory Oral Communication: CO 1003 Fundamentals of Public Speaking Jr/Sr Writing: PS 4464 Political Analysis Emphasis Area – Communication Choose 18 hours: CO 3803 Principles of Public Relations CO 4043 Communication and Leadership CO 4203 Nonverbal Communication CO 4213 Political Communication CO 4253 Elements of Persuasion CO 4313 Mass Media Law CO 3813 Public Relations Case Problems CO 3873 Public Relations Multimedia CO 3833 Interviewing CO 4273 Intercultural Communication Emphasis Area – Political Science Choose 18 hours: PS 3013 Political Leadership PS 3033 Gender and Politics PS 3063 Constitutional Powers PS 3073 Civil Liberties PS 3183 Law and Politics PS 4173 Legislative Process PS 4213 Campaign Politics PS 4283 Public Opinion	

PS 4293 Political Behavior PS 4703 Principles of Public Administration Environmental Justice Concentration Life Science w/ lab: BIO 1134 Biology I Social Science: PS 1113 American Government GR 2013 Human Geography PS 2703 Intro to Public Policy AN 1103 Intro to Anthropology SO 1003 Intro to Sociology Jr/Sr Writing: Satisfied by BIO 3104 Ecology in Ecological Studies emphasis area. Emphasis Area – Justice Studies PHI 3313 Environmental Ethics *AN 4173 Environment and Society* PS 4743 Environmental Policy GR 4133 Political Ecology: Space, Nature, and Justice Choose 6 hours: PHI 3173 Social and Political Philosophy HI 3183 World Environmental History HI 4193 U.S. Environmental History HI 4293 History of Gender and Science REL 3113 Religions and Environment FL 4243 Introduction to Ecolinguistics EC 4323International Economics EC 4423 Public Finance Emphasis Area – Ecological Studies BIO 3104 Ecology GR 3113 Conservation of Natural Resources Choose 12 hours: PHI 4143 Philosophy of Science BIO 4123 Behavioral Ecology BIO 4993 Community Ecology BIO 4233 Living with Global Change AN 3333 Primate Behavior AN 4353 Biology and Culture CH 4303 Environmental Chemistry I GR 4203 Geography of North America OR GR 4213 Geography of Latin America OR GR 4223 Geography of Europe OR GR 4233 Geography of Asia OR GR 4243 Geography of Russia and the Former Soviet Republics OR GR 4253 Geography of Africa OR GR 4263 Geography of the South OR GR 4283 Geography of Islamic World AEC 4243 Natural Resource Economics		PS 4293 Political Behavior PS 4703 Principles of Public Administration Environmental Justice Concentration Life Science w/ lab: BIO 1134 Biology I Social Science: PS 1113 American Government GR 2013 Human Geography PS 2703 Intro to Public Policy AN 1103 Intro to Anthropology SO 1003 Intro to Sociology Jr/Sr Writing: Satisfied by BIO 3104 Ecology in Ecological Studies emphasis area. Emphasis Area – Justice Studies PHI 3313 Environmental Ethics **AN/SO 4173 Environment and Society** PS 4743 Environmental Policy GR 4133 Political Ecology: Space, Nature, and Justice Choose 6 hours: PHI 3173 Social and Political Philosophy HI 3183 World Environmental History HI 4193 U.S. Environmental History HI 4293 History of Gender and Science REL 3113 Religions and Environment FL 4243 Introduction to Ecolinguistics EC 4323International Economics EC 4423 Public Finance Emphasis Area – Ecological Studies BIO 3104 Ecology GR 3113 Conservation of Natural Resources Choose 12 hours: PHI 4143 Philosophy of Science BIO 4123 Behavioral Ecology BIO 4993 Community Ecology BIO 4233 Living with Global Change AN 3333 Primate Behavior AN 4353 Biology and Culture CH 4303 Environmental Chemistry I GR 4203 Geography of North America OR GR 4213 Geography of Latin America OR GR 4223 Geography of Europe OR GR 4233 Geography of Asia OR GR 4243 Geography of Russia and the Former Soviet Republics OR GR 4253 Geography of Africa OR GR 4263 Geography of the South OR GR 4283 Geography of Islamic World AEC 4243 Natural Resource Economics	

LA 4843 Sustainable Communities WFA 3133 Applied Ecology GR 4813 Natural Hazards & Processes GG 4543 Community Engagement in Geosciences GG 3133 Intro to Env Geology GG 3613 Water Resources GG 4523 Coastal Environment International Studies Concentration Literature: EN 2283 World Literature after 1600 Mathematics: MA/ST 2113 Introduction to Statistics Social Science: GR 1123 Introduction to World Geography PS 1313 Introduction to International Relations PS 1513 Comparative Government EC 2113 Principles of Macroeconomics OR EC 2123 Principles of Microeconomics Additional Foreign Language: Foreign Language IV Jr/Sr Writing: Satisfied by PS 4323 International Organization in Global Affairs emphasis area. Emphasis Area – Global Affairs PS 4323 International Organization PS 4343 International Conflict and Security Choose 12 hours: PS 4303 US Foreign Policy PS 4623 Politics of the Third World PS 3033 Gender and Politics PS 4373 International Terrorism PS 4633 Democracy and Democratization PS 4643 Ethnic Conflict PS 4383 National Security Policy PS 4613 Civil Wars and Intra-State Conflicts AN 4163 Anthropology of International Development PS 4313 Principles of International Law PS 4333 Theories of International Relations PS 4353 International Political Economy PS 4363 International Peacekeeping PS 4393 The Global Context AAS/EN 4393 Postcolonial Literature and Theory EN 4373 English Literature and the World EN 4813 The World Novel Since 1900 Emphasis Area – Area Studies	3	LA 4843 Sustainable Communities WFA 3133 Applied Ecology GR 4813 Natural Hazards & Processes GG 4543 Community Engagement in Geosciences GG 3133 Intro to Env Geology GG 3613 Water Resources GG 4523 Coastal Environment International Studies Concentration Literature: EN 2283 World Literature after 1600 Mathematics: MA/ST 2113 Introduction to Statistics Social Science: GR 1123 Introduction to World Geography PS 1313 Introduction to International Relations PS 1513 Comparative Government EC 2113 Principles of Macroeconomics OR EC 2123 Principles of Microeconomics Additional Foreign Language: Foreign Language IV Jr/Sr Writing: Satisfied by PS 4323 International Organization in Global Affairs emphasis area. Emphasis Area – Global Affairs PS 4323 International Organization PS 4343 International Conflict and Security Choose 12 hours: PS 4303 US Foreign Policy PS 4623 Politics of the Third World PS 3033 Gender and Politics PS 4373 International Terrorism PS 4633 Democracy and Democratization PS 4643 Ethnic Conflict PS 4383 National Security Policy PS 4613 Civil Wars and Intra-State Conflicts AN 4163 Anthropology of International Development PS 4313 Principles of International Law PS 4333 Theories of International Relations PS 4353 International Political Economy PS 4363 International Peacekeeping PS 4393 The Global Context AAS/EN 4393 Postcolonial Literature and Theory EN 4373 English Literature and the World EN 4813 The World Novel Since 1900	3

Choose 9 hours: PS/AAS 4543 African Politics PS 4553 West European Politics PS 4583 South Asian Politics PS 4583 East Asian Politics PS 4593 Latin American Politics GG 4533 Geosciences Study Abroad GR 4203 Geography of North America GR 4213 Geography of Latin America GR 4223 Geography of Europe GR 4233 Geography of Asia GR 4243 Geography of Russia and the Former Soviet Republics GR 4253 Geography of Africa GR 4283 Geography of Islamic World GR 4293 Caribbean Geography AN 3113 Societies of the World AN 3133 Anthropology of Latin America AAS 4793 Modern Africa AAS 4093 The African Diaspora AN 3153 African Art and Culture MEC/REL 3473 Islam REL 3212 World Religions I REL 3223 World Religions II REL 3453 Hinduism and Buddhism AN 3143 Anthropology of the Middle East AN 3193 African Cultures AN 3533 Rise of Civilization AN 3553 Near Eastern Archaeology HI 3743 History of England HI 3813 Modern Latin America HI 3853 The United States and Latin America HI 4203 Diplomatic History of the U.S HI 4213 History of Grand Strategy & International Security HI 4223 Intelligence Gathering in the 20th Century HI 4493 Terrorism in America HI 4583 China Since 1800 HI 4593 Japan Since 1600 HI 4613 History of the Soviet Union HI 4673 Europe, 1789-1914 HI 4683 Europe: The First World War to Hitler HI 4693 Europe: The Second World War to the Common Market HI 4713 Tudor and Stuart England HI 4723 History of Britain Since 1688 HI 4743 War, Diplomacy, and Statecraft in Europe, 1648-1989 HI 4753 History of Russia HI 4763 History of Modern Germany HI 4773 History of Modern France HI 4853 Modern Mexico HI 4903 The Far East Emphasis Area – Language Studies		Emphasis Area – Area Studies Choose 9 hours: PS/AAS 4543 African Politics PS 4553 West European Politics PS 4583 South Asian Politics PS 4583 East Asian Politics PS 4593 Latin American Politics GG 4533 Geosciences Study Abroad GR 4203 Geography of North America GR 4213 Geography of Latin America GR 4223 Geography of Europe GR 4233 Geography of Asia GR 4243 Geography of Russia and the Former Soviet Republics GR 4253 Geography of Africa GR 4283 Geography of Islamic World GR 4293 Caribbean Geography AN 3113 Societies of the World AN 3133 Anthropology of Latin America AAS 4793 Modern Africa AAS 4093 The African Diaspora AN 3153 African Art and Culture MEC/REL 3473 Islam REL 3212 World Religions I REL 3223 World Religions II REL 3453 Hinduism and Buddhism AN 3143 Anthropology of the Middle East AN 3193 African Cultures AN 3533 Rise of Civilization AN 3553 Near Eastern Archaeology HI 3743 History of England HI 3813 Modern Latin America HI 3853 The United States and Latin America HI 4203 Diplomatic History of the U.S HI 4213 History of Grand Strategy & International Security HI 4223 Intelligence Gathering in the 20th Century HI 4493 Terrorism in America HI 4583 China Since 1800 HI 4593 Japan Since 1600 HI 4613 History of the Soviet Union HI 4673 Europe, 1789-1914 HI 4683 Europe: The First World War to Hitler HI 4693 Europe: The Second World War to the Common Market HI 4713 Tudor and Stuart England HI 4723 History of Britain Since 1688 HI 4743 War, Diplomacy, and Statecraft in Europe, 1648-1989 HI 4753 History of Russia HI 4763 History of Modern Germany HI 4773 History of Modern France HI 4853 Modern Mexico HI 4903 The Far East	

Choose 9 hours: In addition to completing the fourth level of a foreign language, students must complete 9 hours of upper division coursework in one target language or language area. Linguistics Concentration Additional Foreign Language: Foreign Language IV	3	Emphasis Area – Language Studies Choose 9 hours: In addition to completing the fourth level of a foreign language, students must complete 9 hours of upper division coursework in one target language or language area. Linguistics Concentration Additional Foreign Language: Foreign Language IV	3
Jr/Sr Writing: Satisfied by either EN/AN/SO/LIN 4623 Language and Culture or EN/AN/SO/LIN 4633 Language and Society in required emphasis area. Up to 6 hours of humanities and 6 hours of social sciences may be satisfied with courses in the Linguistics concentration; 121 total degree hours will still be required. Required Emphasis Area AN/EN/LIN 4403 Introduction to Linguistics EN/AN/SO/LIN 4623 Language and Culture or EN/AN/SO/LIN 4633 Language and Society LIN Upper Division Electives - 12 hours Choose 2 of the following emphasis areas: Emphasis Area – Cognitive Science Choose 9 hours: PHI 4223 Philosophy of Cognitive Science PSY 3343 Psychology of Learning PSY 3713 Cognitive Psychology PSY 4413 Cognitive Neuroscience PSY 4653 Cognitive Science Emphasis Area – Culture & Society Choose 9 hours: AN 4123 Anthropological Theory AN 4143 Ethnographic Methods AN 4163 Anthropology of International Development CO 4273 Intercultural Communication PSY 3623 Social Psychology PSY 4233 Culture and Psychology SO 3003 Social Inequality SO 3013 Society and the Individual SO 3703 Racial and Ethnic Inequality SO 4153 Gender Race & Social Movements Emphasis Area – Language Studies In addition to completing the fourth level of a foreign language, students must complete 9 hours of upper division coursework in one target language or language area.		Jr/Sr Writing: Satisfied by either EN/AN/SO/LIN 4623 Language and Culture or EN/AN/SO/LIN 4633 Language and Society in required emphasis area. Up to 6 hours of humanities and 6 hours of social sciences may be satisfied with courses in the Linguistics concentration; 121 total degree hours will still be required. Required Emphasis Area AN/EN/LIN 4403 Introduction to Linguistics EN/AN/SO/LIN 4623 Language and Culture or EN/AN/SO/LIN 4633 Language and Society LIN Upper Division Electives - 12 hours Choose 2 of the following emphasis areas: Emphasis Area – Cognitive Science Choose 9 hours: PHI 4223 Philosophy of Cognitive Science PSY 3343 Psychology of Learning PSY 3713 Cognitive Psychology PSY 4413 Cognitive Neuroscience PSY 4653 Cognitive Science Emphasis Area – Culture & Society Choose 9 hours: AN 4123 Anthropological Theory AN 4143 Ethnographic Methods AN 4163 Anthropology of International Development CO 4273 Intercultural Communication PSY 3623 Social Psychology PSY 4233 Culture and Psychology SO 3003 Social Inequality SO 3013 Society and the Individual SO 3703 Racial and Ethnic Inequality SO 4153 Gender Race & Social Movements Emphasis Area – Language Studies In addition to completing the fourth level of a foreign language, students must complete 9 hours of upper division coursework in one target	

Gender Studies Concentration Fine Art: MU 2173 Women in Music Social Science: GS/SO/AN 1173 Introduction to Gender Studies Jr/Sr Writing: Satisfied by EN/SO/GS 4133 Feminist Theories in Perspectives on Gender and Sexuality emphasis area. Emphasis Area – Perspectives on Gender and Sexuality EN/SO/GS 4133 Feminist Theories Choose 15 hours: CO/GS 4233 Gender and Media COE 4743 Gender Issues in Counseling EN/GS 3513 Women and Literature FLS 4213 Mod Spanish Women Writers PSY 3203 Psychology of Gender Differences SO 4403/GS 4413 Sociology of Gender and Sexuality SO/GS 4503 Gender and Work GS 4403 Gender & Sport Emphasis Area - Gender in Society and Culture Choose 18 hours: CO/GS 4263 Gender Communication CRM/SO/GS 3343 Gender, Crime & Justice HI/AAS/GS 3173 History of African American Women HI 4273 Women in American History HI 4283 History Southern Women HI 4823 Issues in Women's History HI 4293 History of Gender & Science PS 3033 Gender and Politics SO/SW/GS 4543 Gender and Food SO/GS/AAS 4143 Gender, Race, and Social Movements		language or language area. Gender Studies Concentration Fine Art: MU 2173 Women in Music Social Science: GS/SO/AN 1173 Introduction to Gender Studies Jr/Sr Writing: Satisfied by EN/SO/GS 4133 Feminist Theories in Perspectives on Gender and Sexuality emphasis area. Emphasis Area – Perspectives on Gender and Sexuality EN/SO/GS 4133 Feminist Theories Choose 15 hours: CO/GS 4233 Gender and Media COE 4743 Gender Issues in Counseling EN/GS 3513 Women and Literature FLS 4213 Mod Spanish Women Writers PSY 3203 Psychology of Gender Differences SO 4403/GS 4413 Sociology of Gender and Sexuality SO/GS 4503 Gender and Work GS 4403 Gender & Sport Emphasis Area - Gender in Society and Culture Choose 18 hours: CO/GS 4263 Gender Communication CRM/SO/GS 3343 Gender, Crime & Justice HI/AAS/GS 3173 History of African American Women HI 4273 Women in American History HI 4283 History Southern Women HI 4823 Issues in Women's History HI 4293 History of Gender & Science PS 3033 Gender and Politics SO/SW/GS 4543 Gender and Food SO/GS/AAS 4143 Gender, Race, and Social Movements **African American Studies Concentration** **Humanities:** **AAS 1063 Introduction to African American Studies** **AAS/EN 2363 Introduction to African American Literature** **Natural Sciences:** **AN 1344 Biological Anthropology** **Social Science:**	

		AAS/AN/SO 2203 Introduction to Race and Ethnicity **Jr/Sr Writing:** **May be satisfied by AAS 4093 or AAS/EN 4343 in African American Art and Culture emphasis area; consult advisor** **Emphasis Area – African American Art and Culture** **Choose 18 hours:** **AN4353 Biology and Culture** **AN4373 Death and American Culture** **AN 4143 Seminar in Cultural Anthropology** **AAS/HI 3013 African American History to 1865** **AAS/HI 3023 African American History since 1865** **AAS/AN/ART 3153 African Art and Culture** **AAS/HI/GS 3713 History of African American Women** **AAS 4093 The African Diaspora** **AAS/EN 4343 Studies in African American Literature** **AAS/HI 4363 African-American History and Culture** **AAS/HI 4373 History of Modern Civil Rights Movement** **AAS 4383 African American Leadership in the Twentieth Century** **AAS/EN 4393 Postcolonial Literature and Theory** **AAS/HI 4783 African Civilization to 1880** **AAS/HI 4793 Modern Africa** **AAS/HI 4983 African Americans and the Law** **EN 4383 Digital Ethnic Studies** **HI 4863 Issues in African American History** **PHI 3183 African American Philosophy** **REL 3143 African American Religious Experience** **Emphasis Area - African American Social and Political Thought** **Choose 18 hours:** **AAS/PS 3043 Modern Civil Rights Law** **AAS/AN 3193 African Cultures** **AAS/SO/CRM 3353 Race, Crime and Justice** **AAS/GS/SO 4143 Gender, Race, Social Mov** **AAS/GR 4263 Geography of the South** **AAS/PS 4273 African American Politics** **AAS/PS 4543 African Politics** **AAS/CO/SO 4643 Race and the Media** **AN 4303 Human Variation and Origins** **PS 4253 Southern Politics** **PS 4523 Democracy and Inequality** **PS 4643 Ethnic Conflict**	

		SO 3003 Social Inequality **SO 3123 Policing and Society** **SO 3703 Racial and Ethnic Inequality** **SO 4333 Sociology of Sports**	

3. Justification

African American Studies:
African American studies has a relatively recent history in the academy although its critical approaches go back more than a century to the scholarship of W.E.B. Du Bois and others. Since its formal inception as a program of study in the late 1960s, African American Studies has become a staple in most institutions of higher learning. Although African American Studies was borne out of political protest and activism, the field is best understood now as having gained "a particular niche in the academy" (Shaffer and Rojas, 2009, p. 443). Despite gaining an important foothold in the academy, however, AAS programs are subject to institutional challenges that always place them at risk for failure. As Shaffer and Rojas have observed, "Black Studies is very similar to other interdisciplinary fields, like American studies, that have achieved a place in the academy but do not have the status associated with larger and older fields such as English or history" (p. 443) Thus, a liberal arts major with a concentration in African American Studies does the important work of growing the African American Studies program while providing students the opportunity to pursue an interdisciplinary major in the field. Furthermore, the creation of the major would establish AAS as a formal area of study at MSU with an extensive curriculum that more closely reflects current programs at peer and aspirant institutions of higher learning. MSU currently offers a minor in African American Studies, but has no existing undergraduate major.

[1] Shaffer, D & Rojas, F. (2009). What Should We Learn From the Black Studies Experience. Souls 11 (4): 442–447, 2009 / Copyright # 2009 The Trustees of Columbia University in the City of New York

The knowledge gained from AN 1344 provides students with a critical understanding of the concepts of race from an evolutionary standpoint. The specified humanities and social sciences, including AAS 1063, AAS/EN 2363, and AAS/AN/SO 2203, provide the necessary foundation for understanding African American culture and lived experience from an interdisciplinary framework.

4. Effective Date

Fall 2025

5. Four-Letter Abbreviation

AAST

6. Letter of Support

See attached.

MISSISSIPPI STATE UNIVERSITY

College of Arts & Sciences
Dean's Office

P.O. Drawer AS
175 President Circle, 208 Allen Hall
Mississippi State, MS 39762

P. 662.325.1665
F. 662.325.8740
www.cas.msstate.edu

January 15, 2025

Members of the UCCC:

The African American Studies Program supports the new African American Studies concentration in the Bachelor of Arts in Liberal Art major, proposed by the College of Arts and Sciences.

Members of the African American Studies Program's Curriculum Committee and I have reviewed the proposal and support the utilization of our courses in this project. We understand that the concentration in African American Studies may include our courses, and we support the use of our courses in this effort.

Sincerely,

Dr. Donald Shaffer
Director of African American Studies

MISSISSIPPI STATE UNIVERSITY

College of Arts & Sciences
Dean's Office

P.O. Drawer AS
175 President Circle, 208 Allen Hall
Mississippi State, MS 39762

P. 662.325.1665
F. 662.325.8740
www.cas.msstate.edu

January 15, 2025

Members of the UCCC:

The Department of Anthropology and Middle Eastern Cultures supports the new African American Studies concentration in the Bachelor of Arts in Liberal Art major, proposed by the College of Arts and Sciences.

Members of the Department of Anthropology and Middle Eastern Cultures's Curriculum Committee and I have reviewed the proposal and support the utilization of our courses in this project. We understand that the concentration in African American Studies may include our courses, and we support the use of our courses in this effort.

Sincerely,

Dr. James Hardin
Department Head

MISSISSIPPI STATE UNIVERSITY

College of Arts & Sciences
Dean's Office

P.O. Drawer AS
175 President Circle, 208 Allen Hall
Mississippi State, MS 39762

P. 662.325.1665
F. 662.325.8740
www.cas.msstate.edu

March 28, 2025

Members of the UCCC:

The Department of Philosophy and Religion supports the new African American Studies concentration in the Bachelor of Arts in Liberal Art major, proposed by the College of Arts and Sciences.

Members of the Department of Philosophy and Religion's Curriculum Committee and I have reviewed the proposal and support the utilization of our courses in this project. We understand that the concentration in African American Studies may include our courses, and we support the use of our courses in this effort.

Sincerely,

Dr. Robert Thompson
Department Head

MISSISSIPPI STATE UNIVERSITY™
DEPARTMENT OF ENGLISH

TO: Andy Perkins
Chair, University Committee on Courses and Curricula

FROM: Megan Smith
Chair, Department of English Curriculum Committee

RE: BALA Concentration in African American Studies

DATE: February 27, 2025

The English Department Curriculum Committee voted on February 12, 2025 to support the inclusion of the following EN courses in the proposed Concentration in African American Studies in the Bachelor of Arts in Liberal Arts. The faculty of the English Department voted to approve these changes on February 26, 2025.

Courses: EN 2643 Introduction to African American Literature
EN 4343 Studies in African American Literature
EN 4393 Postcolonial Literature and Theory
EN 4383 Digital Ethnic Studies

Signed,

Megan Smith, Chair

Emily Stinson

Ginger Pizer

Meg Marquardt

Dhanashree Thorat

Andrea Spain

Saddiq Dzukogi

Peter De Gabriele

Ashleigh Murdock

MISSISSIPPI STATE UNIVERSITY

College of Arts & Sciences
Department of Communication

P.O. Box PF
216 President's Circle
Mississippi State, MS 39762

P. 662.325.3320
F. 662.325.3210
www.comm.msstate.edu

January 27, 2025

Dear Curriculum Committees:

The curriculum committee of the Department of Communication has met and supports the new African American Studies concentration in the Bachelor of Arts in Liberal Art major, proposed by the College of Arts and Sciences. We also support the utilization of our courses for this new proposed concentration.

Faculty Member	Approve	Faculty Member	Approve
Wendy Roussin, MFA *Associate Professor & Chair*	X	Amy Knight, MA *Instructor II*	X
Marcus Hunter, BA *Associate Professor of Practice*	X	Carrie McCormick, JD *Instructor*	X
Heesook Choi, PhD *Assistant Professor*	X	Josh Foreman, MFA *Instructor*	X
Jesse Wade, MFA *Assistant Clinical Professor*	X		

MISSISSIPPI STATE UNIVERSITY

Department of Geosciences
108 Hilbun Hall
355 Lee Blvd.
P.O. Box 5448
Mississippi State, MS 39762
Phone (662) 325-3915
FAX (662) 325-9423

March 24, 2025

College of Arts and Sciences and the University Courses and Curriculum Committees

Mississippi State University

RE: Liberal Arts Degree Concentrations – African American Studies

Dear Curriculum Committee,

The Department of Geosciences Curriculum Committee has reviewed and supports the proposal from the College of Arts & Sciences for the Liberal Arts degree program to use the Geosciences course "Geography of the South" to fulfill requirements for the new concentration in African American Studies. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully,

Andrew Mercer — Digitally signed by Andrew Mercer Date: 2025.03.28 13:31:49 -05'00'

Andrew Mercer (Committee Member)

Brian Williams — Digitally signed by Brian Williams Date: 2025.03.28 15:32:57 -04'00'

Brian Williams (Committee Member)

Boniface O Fosu — Digitally signed by Boniface O Fosu Date: 2025.03.27 09:22:28 -05'00'

Boniface Fosu (Committee Member)

Varun Paul — Digitally signed by Varun Paul Date: 2025.03.28 13:45:51 -05'00'

Varun Paul (Committee Member)

Sarah Radencic Lalk — Digitally signed by Sarah Radencic Lalk Date: 2025.04.01 09:23:43 -05'00'

Sarah Lalk (Committee Chair)

Cc: Dr. John C. Rodgers, Department Head of Geosciences

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES
Gender Studies Program

P.O. Box 5226
208 Allen Hall
Mississippi State, MS 39762

www.genderstudies.msstate.edu

January 15, 2025

Members of the UCCC:

The Gender Studies Program supports the new African American Studies concentration in the Bachelor of Arts in Liberal Art major, proposed by the College of Arts and Sciences.

Members of the Gender Studies Program's Curriculum Committee and I have reviewed the proposal and support the utilization of our courses in this project. We understand that the concentration in African American Studies may include our courses, and we support the use of our courses in this effort.

Sincerely,

Kimberly Kelly, Ph.D.
Director of Gender Studies
Professor of Sociology
kkelly@soc.msstate.edu | 662-325-2498

MISSISSIPPI STATE UNIVERSITY™
DEPARTMENT OF HISTORY

February 3, 2025

To the Members of the UCCC:

The Department of History supports the new African American Studies concentration in the Bachelor of Arts in Liberal Art major, proposed by the College of Arts and Sciences.

Members of the Department of History's Curriculum Committee and I have reviewed the proposal and support the utilization of our courses in this project. We understand that the concentration in African American Studies may include our courses, and we support the use of our courses in this effort.

Sincerely,

Dr. Alan Marcus
Department Head

Mailbox H, Mississippi State, MS 39762 · 662.325.3604 · http://www.history.msstate.edu/

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES

Department of Sociology
P.O. Box C
456 Hardy Road/207 Bowen Hall
Mississippi State, MS 39762
P. 662.325.2495
F. 662.325.4564
www.sociology.msstate.edu

February 7, 2025

Dear University Committee on Courses and Curriculum,

On behalf of the Department of Sociology, we express our support for the inclusion of our courses within the new African American Studies concentration in the Bachelor of Arts in Liberal Arts (BALA) major, proposed by the College of Arts and Sciences. This concentration represents an important step in expanding interdisciplinary studies. The Department of Sociology voted to support this initiative during our faculty meeting on Friday, February 7, 2025.

Should you have any questions or require additional information, please feel free to contact Dr. Ashley Vancil-Leap, Chair of the Undergraduate Curriculum and Policies Committee, at your convenience.

Sincerely,

Department of Sociology, Criminology and Social Work
Undergraduate Curriculum and Policies Committee

Ashley Vancil-Leap (Chair)

Raymond Barranco

Robert Boyd

Dana Dillard

Margaret Ralston

MISSISSIPPI STATE UNIVERSITY

College of Arts & Sciences
Dean's Office

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175 President Circle, 208 Allen Hall
Mississippi State, MS 39762

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F. 662.325.8740
www.cas.msstate.edu

January 15, 2025

Members of the UCCC:

The Department of Political Science and Public Administration supports the new African American Studies concentration in the Bachelor of Arts in Liberal Art major, proposed by the College of Arts and Sciences.

Members of the Department of Political Science and Public Administration's Curriculum Committee and I have reviewed the proposal and support the utilization of our courses in this project. We understand that the concentration in African American Studies may include our courses, and we support the use of our courses in this effort.

Sincerely,

B. Shoup

Dr. Brian Shoup
Department Head

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: Arts and Sciences Department: Sociology

Contact Person: Jada Johnson Mail Stop: 9562 E-mail: jjohnson@socialwork.msstate.edu

Nature of Change: Modification Date Initiated: 11/15/2024

Current Degree (BS, MS, etc.): BSW

Current Major: Social Work

Current Concentration(s): _____

Current Campus(es): ☑ Starkville ☐ Meridian ☐ Distance ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering on

New Degree (BS, MS, etc.): _____

Effective Date:

Semester	Year
Fall	2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: _____

Proposed Concentration(s): _____

Proposed Campus(es)

☑ Starkville
☐ Meridian
☐ Distance
☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering

Summary of Proposed Changes:

A summary of the proposed changes includes: (1) a deletion of three courses from the admission criteria, but not the program curriculum outline; (2) an addition of a recently approved course to the list of electives on the program curriculum outline, and (3) a deletion of a restriction regarding a humanities elective.

Approved:	Date:
Department Head	1/2/25
Director of Academic Quality	1/3/25
Chair, College or School Curriculum Committee	1/25/25
Dean of College or School	2/3/25
Chair, University Committee on Courses and Curricula (Digitally signed by Andy D. Perkins Date: 2025.05.29 14:34:09 -05'00')	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	June 12th, 2025

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☒ No significant departure

OIRE Representative Initials

DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing undergraduate degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Include the course prefix, number, and title in both columns. Expand this table as needed.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Social Work Major: Social Work	Degree: Bachelor of Social Work Major: Social Work
The Social Work Program at Mississippi State University is accredited by the Council on Social Work Education. Social work is a challenging and rewarding profession with the primary goal of enhancing individual functioning and promoting human rights and social and economic justice. The Bachelor of Social Work graduate is prepared to pursue graduate social work education or to work as a generalist social work practitioner in a variety of practice settings. These include, but are not limited to the following: child welfare service agencies, family services, medical hospitals, mental health clinics, public health clinics, home health agencies, nursing homes, industries, juvenile and family court, shelters for battered women and children, neighborhood and community services. The Social Work curriculum is grounded in a liberal arts perspective. This liberal arts perspective enhances the person-in-environment focus of generalist social work practice. A student may declare social work as a major at any time in his or her academic career. There is a formal admission process into the program. Some upper division courses are restricted to students who have been admitted to the program. To be eligible for admission to the social work program students must: 1. Have a cumulative GPA of 2.0 with a 2.5 GPA for all social work courses; 2. Complete two of the following social work courses with a minimum grade of "C": SW 2303 Social Welfare Policy I, SW 3003 Social Work with At-Risk Populations, and SW 3013 Human Behavior in the Social Environment I; 3. Complete SW 2313 Intro to Social Work (including 30 hrs of service learning experience) with a minimum grade of "B"; 4. Complete an "Application for Admission" including three references on the designated program form; 5. Participate in a personal interview with Social Work Admissions Committee. The following liberal arts courses must be completed prior to petition for admission to the major: • EN 1103 English Composition I 3	The Social Work Program at Mississippi State University is accredited by the Council on Social Work Education. Social work is a challenging and rewarding profession with the primary goal of enhancing individual functioning and promoting human rights and social and economic justice. The Bachelor of Social Work graduate is prepared to pursue graduate social work education or to work as a generalist social work practitioner in a variety of practice settings. These include, but are not limited to the following: child welfare service agencies, family services, medical hospitals, mental health clinics, public health clinics, home health agencies, nursing homes, industries, juvenile and family court, shelters for battered women and children, neighborhood and community services. The Social Work curriculum is grounded in a liberal arts perspective. This liberal arts perspective enhances the person-in-environment focus of generalist social work practice. A student may declare social work as a major at any time in his or her academic career. There is a formal admission process into the program. Some upper division courses are restricted to students who have been admitted to the program. To be eligible for admission to the social work program students must: 1. Have a cumulative GPA of 2.0 with a 2.5 GPA for all social work courses; 2. Complete two of the following social work courses with a minimum grade of "C": SW 2303 Social Welfare Policy I, SW 3003 Social Work with At-Risk Populations, and SW 3013 Human Behavior in the Social Environment I; 3. Complete SW 2313 Intro to Social Work (including 30 hrs of service learning experience) with a minimum grade of "B"; 4. Complete an "Application for Admission" including three references on the designated program form; 5. Participate in a personal interview with Social Work Admissions Committee. The following liberal arts courses must be completed prior to petition for admission to the major: • EN 1103 English Composition I 3

or EN 1104 Expanded English Composition I • EN 1113 English Composition II 3 or EN 1173 Accelerated Composition II • *MA 1313 College Algebra 3* • *BIO 1004 Anatomy and Physiology 4* • PS 1113 American Government 3 • PSY 1013 General Psychology 3 • SO 1003 Introduction to Sociology 3 • *EC 2113 Principles of Macroeconomics 3* Before enrolling in any social work classes, it is the responsibility of the student to consult with their social work advisor regarding any prerequisites for social work classes. The criteria for remaining in the program include: 1. Maintain an overall GPA of 2.0, with a 2.5 GPA for all social work courses. 2. Must earn a minimum of a "C" in each social work course. 3. Continue to demonstrate an aptitude for a social work career. 4. Adhere to all academic expectations of the university and the social work program. 5. Adhere to the National Association of Social Workers Code of Ethics.	or EN 1104 Expanded English Composition I • EN 1113 English Composition II 3 or EN 1173 Accelerated Composition II • PS 1113 American Government 3 • PSY 1013 General Psychology 3 • SO 1003 Introduction to Sociology 3 Before enrolling in any social work classes, it is the responsibility of the student to consult with their social work advisor regarding any prerequisites for social work classes. The criteria for remaining in the program include: 1. Maintain an overall GPA of 2.0, with a 2.5 GPA for all social work courses. 2. Must earn a minimum of a "C" in each social work course. 3. Continue to demonstrate an aptitude for a social work career. 4. Adhere to all academic expectations of the university and the social work program. 5. Adhere to the National Association of Social Workers Code of Ethics.

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
English Composition:		English Composition:	
EN 1103 English Composition I or EN 1104 Expanded English Composition I	3	EN 1103 English Composition I or EN 1104 Expanded English Composition I	3
EN 1113 English Composition II or EN 1173 Accelerated Composition II	3	EN 1113 English Composition II or EN 1173 Accelerated Composition II	3
Foreign Language:		Foreign Language:	
Foreign Language I	3	Foreign Language I	3
Foreign Language II	3	Foreign Language II	3
Humanities:		Humanities:	
Literature– A&S core	3	Literature– A&S core	3
History– A&S core	3	History– A&S core	3
PHI 1103 Introduction to Philosophy or PHI 1113 Introduction to Logic or PHI 1123 Introduction to Ethics	3	PHI 1103 Introduction to Philosophy or PHI 1113 Introduction to Logic or PHI 1123 Introduction to Ethics	3
Literature Elective	3	Literature Elective	3
History Elective	3	History Elective	3
Humanities Elective [1]	3	Humanities Elective [1]	3
Mathematics:		Mathematics:	
ST 2113 Introduction to Statistics	3	ST 2113 Introduction to Statistics	3
Students who do not meet the ACT		*Students who do not meet the ACT*	

prerequisite for MA/ST 2113 will first need to successfully complete either MA 1103, MA 1313, or MA 1213. The course chosen to meet the prerequisite for MA/ST 2113 will count toward free elective hours.		*prerequisite for MA/ST 2113 will first need to successfully complete either MA 1103, MA 1313, or MA 1213. The course chosen to meet the prerequisite for MA/ST 2113 will count toward free elective hours.*	
Fine Arts: A&S core	 3	Fine Arts: A&S core	 3
Natural Sciences: BIO 1004 Anatomy and Physiology Physical Science w/ lab– A&S core Natural Science Elective– A&S core	 4 *3*-4 3-*4*	Natural Sciences: BIO 1004 Anatomy and Physiology Physical Science w/ lab– A&S core Natural Science Elective– A&S core	 4 4 3
Social Sciences: SO 1003 Introduction to Sociology PS 1113 American Government SW 3003 Social Work with At-Risk Populations PSY 1013 General Psychology EC 2113 Principles of Macroeconomics AN 1103 Introduction to Anthropology or AN 1143 Introduction to Cultural Anthropology	 3 3 3 3 3 3	Social Sciences: SO 1003 Introduction to Sociology PS 1113 American Government SW 3003 Social Work with At-Risk Populations PSY 1013 General Psychology EC 2113 Principles of Macroeconomics AN 1103 Introduction to Anthropology or AN 1143 Introduction to Cultural Anthropology	 3 3 3 3 3 3
Major Core: See advisor for course sequencing. SW 2303 Social Welfare Policy SW 2313 Introduction to Social Work/Social Welfare SW 2323 Social Welfare Policy II [2] SW 3013 Human Behavior and the Social Environment I SW 3023 Human Behavior and the social Environment II [2] SW 4613 Child Welfare Services SW 3213 Research Methods in Social Work [2] Choose one of the following: SW 3033 Seminar on Resilience SW 3043 Military Social Work SW 4623 Social Work with the Aged SW 4633 Social Work in Health Care SW 4643 Social Work Services in Schools SW 4533 Substance Abuse and Addictions in Social Work Services SW 4653 Social Work Family Violence SW 4713 Social Work Senior Seminar [2] Students must successfully complete a formal admissions process prior to taking	 3 3 3 3 3 3 3 3 3 3	Major Core: See advisor for course sequencing. SW 2303 Social Welfare Policy SW 2313 Introduction to Social Work/Social Welfare SW 2323 Social Welfare Policy II [2] SW 3013 Human Behavior and the Social Environment I SW 3023 Human Behavior and the social Environment II [2] SW 4613 Child Welfare Services SW 3213 Research Methods in Social Work [2] Choose one of the following: **SW 2023 Trauma Informed Social Work Practice** SW 3033 Seminar on Resilience SW 3043 Military Social Work SW 4623 Social Work with the Aged SW 4633 Social Work in Health Care SW 4643 Social Work Services in Schools SW 4533 Substance Abuse and Addictions in Social Work Services SW 4653 Social Work Family Violence Students must successfully complete a	 3 3 3 3 3 3 3 3

the following courses: SW 3513 Social Work Practice I [2] SW 3523 Social Work Practice II [2] SW 3533 Social Work with Communities and Organizations Field Work includes full-time placement for one semester in a supervised agency setting. SW 4916 Social Work Field Practicum/Seminar I [2] SW 4926 Social Work Practicum/Seminar II [2] SW 4713 Social Work Senior Seminar [2]	3 3 6 6 3	formal admissions process prior to taking the following courses: SW 3513 Social Work Practice I [2] SW 3523 Social Work Practice II [2] SW 3533 Social Work with Communities and Organizations Field Work includes full-time placement for one semester in a supervised agency setting. SW 4916 Social Work Field Practicum/Seminar I [2] SW 4926 Social Work Practicum/Seminar II [2] SW 4713 Social Work Senior Seminar [2]	 3 3 3 6 6 3
Oral Communication: CO 1003 Fundamentals of Public Speaking or CO 1013 Introduction to Communication	3	Oral Communication: CO 1003 Fundamentals of Public Speaking or CO 1013 Introduction to Communication	3
Jr/Sr Writing: Satisfied with SW 4713 in the major		Jr/Sr Writing: Satisfied with SW 4713 in the major	
Computer Literacy: BIS 1012 Business Information Systems or TECH 1273 Computer Applications	2-3	Computer Literacy: BIS 1012 Business Information Systems or TECH 1273 Computer Applications	2-3
General Electives: Consult advisor	*1-7*	General Electives: Consult advisor	5
Total Hours	124	Total Hours	124
Note: Students must complete 31 upper division hours in A&S in residence at MSU. [1] Humanities elective must be course in A&S. *Any History course 1000-4999* [2] Course has prerequisite. Check course description in back of this catalog or consult advisor.		Note: Students must complete 31 upper division hours in A&S in residence at MSU. [1] Humanities elective must be course in A&S. [2] Course has prerequisite. Check course description in back of this catalog or consult advisor.	

JUSTIFICATION AND STUDENT LEARNING OUTCOMES

The majority of changes in this request involve the eligibility requirements of students to petition for admission to the social work program and are not program curriculum changes.

Two changes to the admission criteria include deleting two liberal arts courses from the admission criteria—although, not from our program curriculum—to avoid delays with student petitions for admission. Our social work students are largely community college transfers, who many times have not taken EC 2113 and BIO 1004 prior to transferring. The proposed deletions to the admission criteria support current programmatic practices. In recent years, our faculty have voted on allowing these two exceptions to the admission criteria on a semester-by-semester basis, then notified our majors. After tracking and assessing impact of this exception practice, we are ready to move

forward with making these deletions from the published admission criteria, whilst retaining both courses for completion in our program curriculum. The other change to our admission criteria involves deleting the math requirement from the admission criteria—although, not from our program curriculum. In June 2023, our program made changes to our math requirement, as did most disciplines in our College; these changes were addressed at that time in the curriculum outline but not in the admission criteria.

Our sole proposed addition to the curriculum outline contained in the request regards a course just recently approved, SW 2023 Trauma Informed Social Work Practice. The course was approved in September 2023, after an initial contingent passing in November 2022, with an effective date of fall 2023. Although it's a 2000-level course, while the other electives for this requirement are 3000-level and 4000-level, we affirm its value in being offered as a social work elective for degree credit and program completion. The selection of the 2000-level course code for SW 2023 was for consistency with complementing an existing course in another degree program—specifically a Human Development and Family Studies (HDFS) course, HDFS 2023—as part of an interdisciplinary endorsement for Trauma Informed Child Advocacy (TICA).

The only other noted change in the proposed program modification includes deleting language we believe was previously added in error that involves restricting the humanities elective requirement to only include any History course 1000-4999. **Addendum:** Upon a clarification request from the UCCC involving how the total hours add to exactly 124 when several classes have a credit hour range, we propose changes to the Physical Science w/lab from 3-4 hours to 4 hours, the Natural Science Elective from 3-4 hours to 3 hours, and the General Electives from 1-7 hours to 5 hours. Historically the ranges have been found in the social work program catalog listings for over a decade consistent with ranges in other majors in our department and college. There are a small number of science courses in which a lab is included in a course with only 3 credit hours, and the ranges help support the use of such courses for our curriculum. We have concluded that current practice for social work typically includes advising students into 11 hours in Natural Science and 5 hours in General Electives. Our Academic Coordinator has safeguard practices in place for helping ensure that students meet our program requirements, college level requirements, and university requirements. Our Academic Coordinator also has a substantial history of navigating CAPP—and now Degree Works—to help ensure students take the required 124 hours.

There will not be any modification to student learning outcomes, as they remain consistent with learning competencies outlined by our accrediting body, the Council on Social Work Education. The change requests reflected in this program modification proposal should benefit students for a variety of reasons. For one, updating our language to reflect current practices will help with student advising as they work their way through the program. Students will have a clearer understanding of what is expected of them in our program. Additionally, by offering another elective for our students, we strengthen our program's reach in meeting the educational needs and interests of our diverse student body. Plus, it affirms students being able to pursue the TICA endorsement, while concurrently meeting the social work elective requirement for the social work degree. All proposed changes support alignment across the catalog listing, Degree Works, and current advising and programmatic practices. Our University mission is supported by these changes that support access for learners by increasing consistency in our published content, enhancing efficiency in our petition for admissions process, and broadening the courses offered for degree credit.

SUPPORT

A letter of support from the department is attached.

PROPOSED 4-LETTER ABBREVIATION

SWPS

CIP NUMBER

440701

EFFECTIVE DATE

Fall 2025

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES

Department of Sociology
P.O. Box C
456 Hardy Road/207 Bowen Hall
Mississippi State, MS 39762
P. 662.325.2495
F. 662.325.4564
www.sociology.msstate.edu

December 6, 2024

Dear University Committee on Courses and Curriculum,

On behalf of the Department of Sociology, please accept this letter of support for the program modification to the B.S.W in Social Work. The Social Work program seeks to modify its admission criteria and curriculum to better align with current practices and support student success. These updates enhance student advising, clarify expectations, and expand elective offerings, supporting diverse educational interests while aligning with the Council on Social Work Education's learning competencies. The proposed changes also promote consistency across the catalog, Degree Works, and advising practices, advancing the University's mission of increasing access and efficiency for learners. During our faculty meeting on Friday, December 6th, the Department of Sociology faculty voted unanimously to support this program modification to the Social Work program.

Should you have any questions or require additional information, please feel free to contact Dr. Ashley Vancil-Leap, Chair of the Undergraduate Curriculum and Policies Committee, at your convenience.

Sincerely,

Department of Sociology, Criminology and Social Work
Undergraduate Curriculum and Policies Committee

Ashley Vancil-Leap (Chair)

Raymond Barranco

Robert Boyd

Dana Dillard

Margaret Ralston

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 Education **Department:** Division of Education

Contact Person: Jeffrey Leffler **Mail Stop:** 9300 **E-mail:** jl221@msstate.edu

Nature of Change: Addition **Date Initiated:** 9/6/2024

Current Degree Program Name: N/A

Current Major: N/A

Current Concentration(s): N/A

Current Campus(es): Starkville

New Degree Program Name: Early Childhood Teaching **Effective Date:** 08/20/25

Semester	Year
Fall	2025

Proposed Major: Bachelor of Applied Science

Proposed Concentration(s): None **Proposed Campus(es):** Meridian

Summary of Proposed Changes:

This proposal requests approval for a new Bachelor of Applied Science program. This program will be offered at Mississippi State University - Meridian (Campus 2) and Online (Campus 5). The BAS-ECT is a licensure program of study that consists of 120 hours of undergraduate-level coursework. It is designed for those students who have completed an Early Childhood Education Technical program at the community college and wish to prepare for a career as an elementary teacher in grades Prek-3rd grade.

Approved: **Date:**

Kimberly R. Hall Digitally signed by Kimberly R. Hall Date: 2024.09.09 12:33:49 -05'00'

Department Head

Director of Academic Quality 9/9/2024

Digitally signed by Jeanette Fontaine
Date: 2024.12.13 15:32:25 -06'00'

Chair, College or School Curriculum Committee

Teresa Jayroe 12-20-24

Dean of College or School

Digitally signed by Andy D. Perkins
Date: 2025.05.29 14:34:40 -05'00'

Chair, University Committee on Courses and Curricula

*€ Peter Liam Ryan June 12th, 2025

Chair, Graduate Council (if applicable)

Chair, Deans Council

* Was approved at the May 2025 11th Board meeting, final will be forthcoming when the May Board minutes are read at the June meeting

NEW DEGREE OUTLINE FORM
Use the chart below to indicate your new degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. Expand rows as needed.

PROPOSED New Degree	
Degree: Bachelor of Applied Science **Major:** Early Childhood Teaching (ECHT) **Concentrations: N/A**	
The Bachelor of Applied Science in Early Childhood Teaching (BAS-ECHT) is a comprehensive undergraduate program designed to equip students with an Associate's of Applied Science degree with the practical skills and theoretical knowledge necessary to effectively teach students in grades Pre-K through 3rd grade. This program is a partnership between the College of Education, the School of Human Sciences, and the College of Professional and Continuing Studies and integrates fundamental pedagogical theory with applied strategies and tools to prepare students to provide sound and innovative instruction to Pre-K-3 students in the state of Mississippi. Completion of this program plus the following requirements will result in a Five-Year, Renewable License: 1. Twenty-one (21) ACT (or SAT equivalent) or achieve a qualifying passing score on the Praxis CORE Academic Skills for Educators examination or 3.0 overall GPA during AAS 2. Achieve a passing score on the Praxis Principles of Learning and Teaching: Grades K-6 exam 3. Achieve a passing score on the Praxis Elementary Education: Curriculum, Instruction and Assessment exam 4. Achieve a Passing Score on the Foundations of Reading assessment. 5. Work as a teaching assistant in a local school district for two years and take EDE 4989 OR complete a traditional internship while enrolled in EDE 4989.	
Proposed Curriculum Outline	**Required Hours**
English (General Education): EN 1103 English Composition I or EN 1104 Expanded English Composition I EN 1113 English Composition II or EN 1173 Accelerated Composition II	**6**
Fine Arts (General Education): Any General Education Course	**3**
Natural Sciences: (2 labs required from Gen Ed): Any approved science w/ lab	**6**
Math (General Education): MA 1413 Structure of Real Numbers or MA 1213 Math in Your World	**3**
Humanities (General Education): EDE 2443 Creative Arts for Elementary/Middle Level Any General Education Course	**6**
Social/Behavioral Sciences (General Education): HDFS 1813- Individual and Family Development through the Lifespan Any Other General Education Course	**6**
Subtotal	**30**

PROPOSED New Degree	
Degree: Bachelor of Applied Science **Major:** Early Childhood Teaching (ECHT) **Concentrations: N/A**	
Major Core Courses:	
PCS 2111 Introduction to Bachelor of Applied Science	**1**
EDX 3213 Foundations of Special Education	**3**
RDG 3113 Early Literacy Instruction I	**3**
RDG 3123 Early Literacy Instruction II	**3**
EDE 3423 Early Childhood Mathematics Methods	**3**
RDG 3223 Diagnosing and Assessing Reading Difficulties in Children	**3**
EDE 4513 Literacy and Social Studies Pedagogy in Early Childhood	**3**
EDE 4303 Instructional Design and Assessment in Early Childhood	**3**
EDE 4523 STEAM Pedagogy in Early Childhood	**3**
EDX 4413 Working with Families of Students with Disabilities OR HDFS 4803 Parenting	**3**
EDE 4323 Technology in the Early Childhood Classroom	**3**
EDE 4883 Managing the Elementary and Middle Level Classroom OR HDFS 3843 Guiding Young Children's Behavior & Social Development	**3**
EDE 4989 Teaching Internship for Prekindergarten and Early Grades	**9**
PCS 4112 Professional Success Strategies in Applied Fields	**2**
Subtotal	**45**
Technical Courses in Discipline: ***	**45**
Total Hours	**120**

**** Technical content transfers in from the associate degree in an Early Childhood Education - related area*

Student Learning Outcomes

These student learning outcomes are designed to ensure that those who obtain the BAS-ECHT possess the knowledge, skills, and competencies necessary for effective and culturally competent practice in the field of early childhood education. After completion of the BAS-ECHT, the student will be able to:

1. Instructional Planning and Delivery: Graduates will design and implement developmentally appropriate lesson plans that align with state standards, incorporating various instructional strategies and materials to meet the diverse needs of young learners.

Assessment and Data Analysis: Graduates will develop proficiency in administering, interpreting, and utilizing assessments to gather data on children's learning and development and analyze assessment results to inform instructional decisions and create individualized learning plans.

2. Child Development and Learning: Graduates will create engaging learning experiences that promote optimal development across domains, exhibiting a deep understanding of the stages of physical, cognitive, social, and emotional development in children from birth to age 8.

3. Classroom Management and Positive Behavior Support: Graduates will demonstrate the ability to employ effective classroom management strategies and techniques to create a positive and inclusive learning environment.

4. Literacy Instruction and Assessment: Graduates will develop expertise in teaching reading and writing skills, employing evidence-based instructional practices and assessments to promote literacy development to address the needs of struggling readers, differentiate instruction, and foster a love for reading in young learners.

5. Mathematics Instruction and Assessment: Graduates will demonstrate a strong foundation in mathematics content knowledge and pedagogy, enabling them to teach Instructional Planning and Delivery: Graduates will design and implement developmentally appropriate lesson plans that align with state standards, incorporating various instructional strategies and materials to meet the diverse needs of young learners.

6. Family and Community Engagement: Graduates will demonstrate skills necessary to establish and maintain partnerships with families and the community, including effective communication techniques, involving families in their child's education, and collaborating with community resources to support children's learning and well-being.

7. Professionalism and Ethical Practices: Graduates will exhibit professionalism, ethical behavior, and a commitment to their ongoing professional development by adhering to ethical guidelines, legal requirements, and policies relevant to early childhood education, ensuring they provide a safe, inclusive, and culturally responsive learning environment.

Support:
Please see letters of support from elementary education program faculty, from the Division of Education, and the administration from Campus 2.

This program will currently be offered on Campus 2 and 5 only.

Proposed 4-letter Abbreviation: ECHT (CIP 13.1210)

Effective Date: Fall 2025

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 2025
Program title as it will appear on Academic Program Inventory, Diploma, and Transcript:	Bachelor of Applied Science in Early Childhood Teaching
Name of degree(s) to be awarded:	Bachelor of Applied Science
Six-digit CIP code:	13.1210
Total credit-hour requirement to earn the degree:	120-122
Responsible academic unit:	College of Education – Meridian
Institutional contact: Phone: Email:	Jeff Leffler, 601-484-0187, jleffler@meridian.msstate.edu
SACSCOC Substantive Change:	☒ Program proposed **IS NOT** a substantive change. ☐ Program proposed **IS** a substantive change.
Incremental, five-year cost of implementation:	$906,378
Incremental, five-year per student cost of implementation:	$4,873
Potential five-year, new revenue:	$3,461,460
Potential new, five-year revenue per student:	$18,610
Will it attract new students to the university?	☒ Yes ☐ No
List any institutions within the State offering similar programs:	There are not any institutions offering a similar program in this area.

Number of students expected to enroll in first 5 years:		Number of students expected to graduate in first 5 years:	
Year 1	25	Year 1	0
Year 2	30	Year 2	20
Year 3	36	Year 3	24
Year 4	43	Year 4	29
Year 5	52	Year 5	35
Total	186	Total	108

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

The Bachelor of Applied Science in Early Childhood Teaching (ECHT) is a comprehensive undergraduate program designed to equip students with the practical skills and theoretical knowledge necessary to effectively teach students in grades Pre-K through 3rd grade. This program integrates fundamental pedagogical theory with applied strategies and tools to prepare students to provide sound and innovative instruction to Pre-K-3 students. With a focus on applied learning, students gain in-depth understanding of child development, effective classroom management techniques, curriculum design and implementation, assessment and evaluation strategies, collaboration and communication skills, as well as professionalism and ethical practices. Graduates of this program are equipped with the necessary skills and qualifications to create developmentally appropriate learning environments, engage young learners, and establish meaningful partnerships with families and colleagues. Through a combination of coursework and hands-on experiences, students will acquire the expertise required to positively impact the lives of children and make a significant contribution to the field of early childhood education. Students who successfully complete the program of study and a residency in a local school district, and earn passing scores on the required licensure exams, will exit the

program with a PreK-3 MS teaching license.

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 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 with oversight from the College of Education - Meridian Campus and will be offered in Meridian and online. Dr. Jeff Leffler, Associate Professor of Elementary Education, will be the program coordinator.
2	Describe the educational objectives of the degree program including the specific objectives of any concentrations, emphases, options, specializations, tracks, etc.
	Instructional Planning and Delivery: Graduates will design and implement developmentally appropriate lesson plans that align with state standards, incorporating various instructional strategies and materials to meet the diverse needs of young learners. Assessment and Data Analysis: Graduates will develop proficiency in administering, interpreting, and utilizing assessments to gather data on children's learning and development and analyze assessment results to inform instructional decisions and create individualized learning plans. Child Development and Learning: Graduates will create engaging learning experiences that promote optimal development across domains, exhibiting a deep understanding of the stages of physical, cognitive, social, and emotional development in children from birth to age 8. Classroom Management and Positive Behavior Support: Graduates will demonstrate the ability to employ effective classroom management strategies and techniques to create a positive and inclusive learning environment. Literacy Instruction and Assessment: Graduates will develop expertise in teaching reading and writing skills, employing evidence-based instructional practices and assessments to promote literacy development to address the needs of struggling readers, differentiate instruction, and foster a love for reading in young learners. Mathematics Instruction and Assessment: Graduates will demonstrate a strong foundation in mathematics content knowledge and pedagogy, enabling them to teach mathematical concepts and skills using manipulatives, real-world applications, and

problem-solving strategies.

Family and Community Engagement: Graduates will demonstrate skills necessary to establish and maintain partnerships with families and the community, including effective communication techniques, involving families in their child's education, and collaborating with community resources to support children's learning and well-being.

Professionalism and Ethical Practices: Graduates will exhibit professionalism, ethical behavior, and a commitment to their ongoing professional development by adhering to ethical guidelines, legal requirements, and policies relevant to early childhood education, ensuring they provide a safe, inclusive, and culturally responsive learning environment.

3	Describe any special admission requirements for the degree program including any articulation agreements that have been negotiated or planned.
	Applicants to the BAS in Early Childhood Teaching must possess an accredited Associate of Applied Science (AAS) in Early Childhood Technology, or other AAS majors pertaining to early childhood education and have a GPA of 2.0 as computed by Mississippi State University. Applicants must also be in good academic standing with their current college.
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.
	This program will seek accreditation from the Council for the Accreditation of Educator Preparation (CAEP), in keeping with all education programs at Mississippi State. The program will also follow all guidelines for reporting as set forth by the Mississippi Department of Education. This program is not a substantive change and will not require a SACSCOC 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.
	The overall curriculum for this degree program consists of the university core curriculum (30 hours), major coursework in early childhood teaching (45 hours, and up to 45 hours credit for work in the technical discipline associated with the student's AAS degree for a total 120 hours required for student to complete in the BAS in Early Childhood Teaching program. UNIVERSITY CORE CURRICULUM: English (6 Hours) - EN 1103 English Composition I or EN 1104 Expanded English Composition I - EN 1113 English Composition II or EN 1173 Accelerated Composition II Fine Arts (3 hours): - Any General Education Course Natural Sciences (6 hours): - (2 labs required from Gen Ed): - Any approved science w/ lab Math (3 hours): - MA 1413 Structure of Real Numbers or MA 1213 Math in Your World or MA 1313 College Algebra (or higher)

Humanities (6 hours):
-EDE 2442 Creative Arts for Elementary/Middle Level
-Any Other General Education Course

Social/Behavioral Sciences (6 hours):
- HDFS 1813- Individual and Family Development through the Lifespan
-Any Other General Education Course

MAJOR CORE CURRICULUM (45 hours):
- PCS 2111 Introduction to Bachelor of Applied Science
- EDX 3213 Foundations of Special Education
- RDG 3113 Early Literacy Instruction I
- RDG 3123 Early Literacy Instruction II
- EDE 3423 Early Childhood Mathematics Methods
- RDG 3223 Diagnosing and Assessing Reading Difficulties in Children
- EDE 4513 Literacy and Social Studies Pedagogy in Early Childhood
- EDE 4303 Instructional Design and Assessment in Early Childhood
- EDE 4523 STEAM Pedagogy in Early Childhood
- EDX 4413 Working with Families of Students with Disabilities OR HDFS 4803 Parenting
- EDE 4323 Technology in the Early Childhood Classroom
- EDE 4883 Managing the Elementary and Middle Level Classroom OR HDFS 3843 Guiding Young Children's Behavior & Social Development
- EDE 4989 Teaching Internship for Prekindergarten and Early Grades
- PCS 4112 Professional Success Strategies in Applied Fields

TECHNICAL COURSES IN DISCIPLINE (45 hours):
- Transferred from the community college

TOTAL HOURS: 120

SPECIAL REQUIREMENTS:
In order to receive a teaching license, students must complete all practicum hours associated with completion of the major core courses. Students must also either work as a teacher assistant in a local school for two years during the course of their program or complete a one-year internship following program completion in order to receive a 5 year, renewable license.
The following exams must be passed to receive a Pre-K-3 license:
- Principles of Learning and Teaching: Early Childhood Praxis (Test Code – 5621)
- Education of Young Children Praxis (Test Code – 5024)
- Pearson's Foundations of Reading exam

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.

Because the proposed major includes existing courses from other academic colleges, the below required courses will continue to be delivered primarily by existing faculty from the College of Education, Meridian Campus:
- RDG 3113 Early Literacy Instruction I

- RDG 3123 Early Literacy Instruction II
- EDE 3123 Early Childhood Education
- RDG 3223 Diagnosing and Assessing Reading Difficulties in Children
- EDX 3213 Foundations of Special Education
- EDE 4883 Managing the Elementary and Middle Level Classroom

The following required course will be delivered by existing faculty from the School of Human Sciences, Online Campus:
- HDFS 1813- Individual and Family Development through the Lifespan
- HDFS 3843 Guiding Young Children's Behavior & Social Development

The below required courses will be delivered by Kenna Vowell, Instructor in the College of Professional and Continuing Studies, or other qualified faculty within the colleges: --
EDE 4303 (ex. Course code) Instructional Planning and Design for Early Childhood
-- EDE 4323 (ex. Course code) Technology in the Early Childhood Classroom

- PCS 2111 Introduction to Bachelor of Science
- PCS 4112 Professional Success Strategies in Applied Fields

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 holdings for the proposed program. The following databases for the Mississippi State Library are relevant to BAS in Early Childhood Education - Teaching program:

- eBooks from EBSCO
- Academic Search Premier
- ERIC
- PsycInfo

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.

Evaluation of this program will be aligned to the standards of evaluation set forth by the Mississippi Department of Education. Throughout the first five years of this program, program facilitators will maintain an ongoing assessment of program effectiveness, make necessary adjustments based on data analysis, and ensure alignment with accreditation standards and state requirements, as well as regularly engage with relevant stakeholders, such as faculty, students, graduates, and MDE representatives, to gather feedback and make informed decisions regarding program enhancements.
A summary of the evaluation plan is as follows:
Year 1:
- Conduct an assessment of the program's admission criteria and processes to ensure alignment with accreditation standards and state requirements.
- Collect admission and retention rates for the cohort admitted during the year.
- Review and analyze program outcome assessments, including student performance on state licensure tests and common assessments.
- Analyze and report program outcome data in the Annual Report to the Mississippi Department of Education (MDE) for State Program Approval Status.
- Review any feedback from the State/National Accreditation Visit and implement necessary improvements based on recommendations.

Year 2:

- Review and refine admission and retention strategies based on Year 1 data and analysis.
- Collect admission and retention rates for the new cohort admitted during the year.
- Analyze program outcome assessments and compare results to previous years.
- Continue to report program outcome data in the Annual Report to MDE for State Program Approval Status.
- Address any additional recommendations from the State/National Accreditation Visit.

Year 3:
- Continue to assess and enhance admission and retention strategies based on previous year's data.
- Collect admission and retention rates for the new cohort.
- Analyze program outcome assessments and identify trends or areas for improvement.
- Submit the Annual Report to MDE for State Program Approval Status, including updated data on performance and demographic information.
- Monitor any changes in job market need/demand for early childhood educators and make necessary curriculum adjustments.

Year 4:
- Evaluate the effectiveness of admission and retention strategies based on cumulative data.
- Collect admission and retention rates for the new cohort.
- Analyze program outcome assessments and identify areas of success and improvement.
- Submit the Annual Report to MDE for State Program Approval Status, focusing on providing comprehensive data on candidates' and completers' performance.
- Prepare for the mid-cycle State Program Review, including compiling required documentation and evidence of compliance with state standards.

Year 5:
- Review and adjust admission and retention strategies based on insights from the previous years.
- Collect admission and retention rates for the new cohort.
- Analyze program outcome assessments and assess the impact of changes made over the years.
- Submit the Annual Report to MDE for Program Approval Status, aligning with CAEP and Title II annual reports.
- Participate in the mid-cycle State Program Review, providing evidence of continuous improvement efforts and adherence to state standards.
- Conduct surveys of ex-students/graduates to gather feedback on the program's effectiveness, relevance, and preparedness for the teaching profession.

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

This Bachelor of Applied Science degree in Early Childhood Teaching is unique and the only one in the State of Mississippi. Additionally, nearby states of Alabama, Arkansas, and Louisiana do not have such a degree that would enable early childhood education graduates a clear and efficient pathway to get a teaching license that would better equip themselves to serve a larger range of children to meet the needs of America’s classrooms.
In fall 2022, we conducted a needs assessment survey with a 70% response rate to determine institutional interest in providing a vertical alignment to their in-demand AAS

degrees. The survey aimed to determine interest in the creation of various BAS majors, and we are pleased to report that there was significant interest in the Early Childhood Teaching major. All responding colleges expressed interest in a BAS degree that provides students with a clear pathway to a bachelor's degree culminating in a teaching license. These results confirmed the demand for this program and motivated us to develop a relevant BAS major that meets the needs of our partners and the state of Mississippi.

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.

Year	Incoming Students	Total Enrollment	Start-Up Costs	A Additional Annual Costs	B Additional Annual Revenue	C Non-Tuition Revenue	(B+C)-A Differential
2025-26	25	25	$15,0000	$20,000	$89,556	$0.00	$69,556
2026-27	30	55	$0.00	$20,000	$238,816	$0.00	$218,816
2027-28	36	71	$0.00	$20,000	$462,706	$0.00	$442,706
2028-29	43	90	$0.00	$20,000	$537,336	$0.00	$462,336
2029-30	52	113	$0.00	$75,000	$649,281	$0.00	$574,281
TOTAL	186	354	$0.00	$155,000	$1,977,695	$0.00	$1,767,695

Start-Up Costs:

- Start-up costs include marketing and recruitment activities and materials.

Direct, Incremental Costs:

- Beginning Year 1, a part-time coordinator will need to be hired to help advising of the new program.
- Beginning Year 3, the program will hire an Assistant Clinical Professor to aid in teaching courses.

Incremental Revenue:

Non-Tuition Revenue:

Differential:

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

☒ Survey of Student Interest

Number of surveys administered:	25
Number of completed surveys returned:	17
Percentage of students interested in program:	70%

Include a brief statement that provides additional information to explain the survey.
The survey was submitted to current partners and potential partner community colleges that offer an AAS in an early childhood education-related career pathway.

☒ Market Analysis or Evidence of Labor Market Need

Given the target audience of our Bachelor of Applied Science (BAS) program, which consists primarily of employed adult learners, we made the decision to survey our partner schools instead of students. This was influenced by the understanding that students in the program may have a lower response rate due to their work commitments. Additionally, the success of the program for transfer students depends on the strength of our partnerships with community colleges. In fall 2022, we conducted a needs assessment survey with a 70% response rate to determine institutional interest in providing a vertical alignment to their in-demand AAS degrees. The survey aimed to determine interest in the creation of various BAS majors, and we are pleased to report that there was significant interest in the Early Childhood Teaching major. All responding colleges expressed interest in a BAS degree that provides ECE graduates a clear baccalaureate pathway that builds upon their classroom management and instructional experience as well as their theoretical framework experience gained in their AAS degree. These results confirmed the demand for this program and motivated us to develop a relevant BAS major that meets the needs of our partners and the state of Mississippi.

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

A Bachelor of Applied Science (BAS) in Early Childhood Teaching with a PreK-3 teaching license program equips graduates with the knowledge and skills necessary to pursue a career in early childhood education. This degree program focuses on preparing individuals to work with young children, specifically those in the age range of preschool to third grade. According to employment projections, the demand for early childhood educators is expected to grow significantly in the coming years. The importance of early childhood education in the development of young children has been widely recognized, leading to an increased demand for qualified professionals in this field. According to the U.S. Bureau of Labor Statistics, preschool teachers are in the top 30 jobs expected to have the most growth between the years of 2021 and 2031. Preschool and kindergarten teacher jobs are expected to grow by 18.4% percent and elementary teacher jobs in general are expected to grow by 7.4% percent nationwide. The following table shows the growth projection in neighboring states as well as Mississippi.

Preschool Teacher Jobs:		
State:	*Percentage Growth from 2020-2030:*	*Avg. Annual Openings:*
Alabama	14.1%	740
Mississippi	18.9%	320
Louisiana	4.8%	160
Tennessee	4.7%	860

Elementary Teacher Jobs:		
Alabama	6.1%	1,720
Mississippi	7.7%	1,010
Louisiana	2.1%	1,630
Tennessee	4.8%	2,270

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF EDUCATION
Department of Teacher Education and Leadership
P.O. Box 9705
175 President Circle
Allen Hall, Room 310
Mississippi State, MS 39762
P. 662.325.3747
F. 662.325.7857

August 16, 2024

TO: **Box Council and University Committee on Courses Curricula**

FROM: **Stephanie M. Lemley, Elementary Education Undergraduate Coordinator, Department of Teacher Education and Leadership**

RE: **Bachelor of Applied Science Early Childhood Teaching**

Dear Box Council and UCCC Members,

The Elementary Education faculty offers this letter of support for the proposed Bachelor of Applied Science (BAS) in Early Childhood Teaching degree program on campuses 2 and 5. As indicated by the signatures below, we support the proposal as written for submission to the Box Council and the UCCC.

Thank you,

Dr. Kenneth Anthony

Mrs. Tiffiney Atterberry

Ms. Netasha Cummings

Dr. Tania Hanna

Dr. Kristin Javorsky

Mrs. LaMareshia Johnson

Dr. Shenika Kendrick

Dr. Jeffrey Leffler

Dr. Stephanie Lemley

Dr. Gail Lindsey

Dr. Nicole Miller

Dr. Angela Mulkana

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF EDUCATION
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P.O. Box 9705
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Mississippi State, MS 39762
P. 662.325.3747
F. 662.325.7857

August 16, 2024

TO: Box Council and UCCC Committee Members

Dr. Rebecca Robichaux-Davis

Mrs. Brittney Rye

Mrs. Sarah Salisbury

Dr. Kimberly Smith

Mrs. Michelle Stubbs

Dr. Ursula Wilson

Mrs. Ruiping Yuan

Dr. Ksenia Zhbanova

MISSISSIPPI STATE UNIVERSITY

MSU - MERIDIAN
Division of Education
College Park Campus
1000 Hwy 19 North
Meridian, MS 39307
P. 601.484.0170
F. 601.484.0280
meridian.msstate.edu

August 14, 2024

TO: **Box Council and University Committee on Courses and Curricula**

FROM: **Kim Hall, Head, Meridian Division of Education**

RE: **Bachelor of Applied Science in Early Childhood Teaching**

Dear Box Council and UCCC Members,

I offer this letter of support for the proposed Bachelor of Applied Science (BAS) in Early Childhood Teaching degree and associate new course proposals including EDE 3423, EDE/HDFS 4303, EDE/HDFS 4323, EDE 4513, EDE 4523, and EDE 4989. As indicated by my signature below, I support the proposal as written for submission to the Box Council and the UCCC.

Sincerely,

Kim Hall

Kim Hall
Head, Meridian Division of Education
Associate Dean for Academics, College of Education

MISSISSIPPI STATE UNIVERSITY

SCHOOL OF HUMAN SCIENCES
P. O. Box 9745
Mississippi State, MS 39762
P. 662.325.2950
humansci.msstate.edu

August 21, 2024

TO: University Committee on Courses and Curriculum

FROM: Julie Parker, HDFS Undergraduate Program Leader- School of Human Sciences

RE: Bachelor of Applied Science in Early Childhood Teaching

Dear UCCC Members,

The Human Development and Family Science faculty offers this letter of support for the proposed Bachelor of Applied Science (BAS) in Early Childhood Teaching degree program on campuses 2 & 5. As indicated by the signatures below, we support the proposal as submitted.

Thank you,

Sheri Worthy
Sheri Worthy

Julie Parker, PhD, CCLS
Julie Parker

Lori Staton
Lori Staton

Tommy M. Phillips
Tommy Phillips

Angel Fason
Angel Fason

Mary Nelson Robertson
Mary Nelson Robertson

Cappe Hallberg
Cappe Hallberg

Samantha Daniels
Samantha Daniels

Chelsea Panse-Barone
Chelsea Panse-Barone

Benjamin Burke
Ben Burke

MISSISSIPPI STATE UNIVERSITY™
COLLEGE OF PROFESSIONAL AND CONTINUING STUDIES

365 Barr Avenue
P.O. Box 5247
Mississippi State, MS 39762

January 14, 2025

To: University Committee on Courses and Curricula

Re: Inclusion of Courses in the BAS Early Childhood Teaching Degree

The College of Professional and Continuing Studies Curriculum Committee affirms support for the inclusion of the following courses in the BAS Early Childhood Teaching program:

- PCS 2111 Introduction to the Bachelor of Applied Science
- PCS 4112 Professional Success Strategies in Applied Fields

Please let the committee know if there are any questions or concerns.

Sincerely,

Kenna Vowell

Kenna Vowell, Ph.D., Assistant Professor, Committee Chair

Sean M. Owen

Sean Owen, Ph.D., Associate Dean/Research Professor

Kali Dunlap

Kali Dunlap, Ph.D., Assistant Teaching Professor

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: Bagley College of Engineering **Department:** Aerospace Engineering

Contact Person: Rani Sullivan **Mail Stop:** 9549 **E-mail:** sullivan@ae.msstate.edu

Nature of Change: Degree Modification
Date Initiated: 07/02/2024
Effective Date: Fall 2025

Current Degree Program Name: Bachelor of Science in Aerospace Engineering

Major: Aerospace Engineering
Concentrations: Aeronautics and Astronautics

New Degree Program Name: Bachelor of Science in Aerospace Engineering (no change)

Major: Aerospace Engineering (no change)
Concentration: Aeronautics and Astronautics (no change)

Summary of Proposed Changes:

Please see Table 1
In summary, it includes the following.
1. Creat three (ASE 2711, ASE 3721, ASE 3731) laboratory courses to house all ASE laboratory experiments.
2. Creat ASE 4712 Capstone I and ASE 4722 Capstone II to provide undergraduate senior seminar experience and professional development training and workshops for current and emerging topics in the field of aerospace engineering.
3. Add CSE 1284 for a programming language and allowing students to select either the existing CSE 1233 Computer Programming in C or CSE 1284 Programming in Python in freshman semester I
4. Remove ECE 3413 *Intro to Electronic Circuits* and including the relevant material in ASE 2711, ASE 3721, and ASE 3731.
6. Change ASE 3243 *Aerospace Structural Analysis II to* a technical elective.
7. Creat ASE 4313 Introduction to Aerospace Propulsion for all ASE undergraduates and removing ASE 4413 Aircraft Propulsion (taken by aero-track ASE students) and ASE 4443 Spacecraft Propulsion (taken by astro-track ASE students).

Approved:	Date:
Digitally signed by Rani Warsi Sullivan Date: 2024.07.02 21:03:52 -05'00'	2 July 2024
Department Head	
Director of Academic Quality	8/6/24
Chair, College or School Curriculum Committee	
Dean of College or School	27 March 2025
Digitally signed by Andy D. Perkins Date: 2025.05.29 14:34:57 -05'00'	
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council(if applicable)	
Chair, Deans Council	June 12th, 2025

1. CATALOG DESCRIPTION

CURRENT Catalog Description	PROPOSED Catalog Description
Department Head: Professor Rani W. Sullivan Academic Coordinator: Ms. Machaunda Bush Office: 321 Walker Engineering Building	Department Head: Professor Rani W. Sullivan Academic Coordinator: Ms. Machaunda Bush Office: 321 Walker Engineering Building
The Department of Aerospace Engineering at Mississippi State University provides an accredited undergraduate curriculum with the mission of preparing students to enter the workplace as qualified entry-level aerospace engineers or to enter any aerospace engineering graduate program adequately prepared for advanced study. This mission is accomplished by a strong foundation in mathematics and physical and engineering sciences upon which student problem-solving and application skills are developed. The curriculum stresses analytical and communication skills, with particular emphasis placed on engineering design throughout the curriculum. A capstone design experience in the senior year provides the opportunity to integrate design, analytical, and problem-solving skills along with communication skills in a team environment that emulates aerospace engineering practice. The mission is accomplished by the following educational objectives, which describe the career and professional accomplishments we are preparing our graduates to achieve. Our graduates will: **Be involved in solving unstructured engineering problems** within their organization that will allow them to successfully advance in the engineering profession. **Be engaged in lifelong learning and pursue professional development** through actions such as persistent study of the current literature in the field, participation in graduate education, professional education or continuing education opportunities,	The Department of Aerospace Engineering at Mississippi State University provides an accredited undergraduate curriculum with the mission of preparing students to enter the workplace as qualified entry-level aerospace engineers or to enter any aerospace engineering graduate program adequately prepared for advanced study. This mission is accomplished by a strong foundation in mathematics and physical and engineering sciences upon which student problem-solving and application skills are developed. The curriculum stresses analytical and communication skills, with particular emphasis placed on engineering design throughout the curriculum. A capstone design experience in the senior year provides the opportunity to integrate design, analytical, and problem-solving skills along with communication skills in a team environment that emulates aerospace engineering practice. The mission is accomplished by the following educational objectives, which describe the career and professional accomplishments we are preparing our graduates to achieve. Our graduates will: **Be involved in solving unstructured engineering problems** within their organization that will allow them to successfully advance in the engineering profession. **Be engaged in lifelong learning and pursue professional development** through actions such as persistent study of the current literature in the field, participation in graduate education, professional education or continuing education opportunities,

attainment of professional licensure, or membership in professional societies.

3. **Be professionally and ethically responsible** to the profession, society, and the environment incumbent on an engineering professional.
4. **Collaborate successfully and positively** on multi-disciplinary, culturally-diverse teams in support of their organizational goals.
5. **Communicate effectively** in various settings and contexts by activities such as writing technical reports and peer-reviewed articles and presenting at technical interchanges.

These objectives are accomplished in two different concentrations in the aerospace engineering curriculum, an aeronautics concentration and an astronautics concentration. The concentration in aeronautics focuses on the analysis and design of aircraft and other vehicles that operate primarily within the earth's atmosphere, and the concentration in astronautics focuses on the analysis and design of spacecraft and other vehicles that operate primarily outside the earth's atmosphere. A student in aerospace engineering will choose one of these two concentrations upon choosing the aerospace engineering major.

The B. S. program in Aerospace Engineering is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Aerospace and similarly named engineering programs.

attainment of professional licensure, or membership in professional societies.

3. **Be professionally and ethically responsible** to the profession, society, and the environment incumbent on an engineering professional.
4. **Collaborate successfully and positively** on multi-disciplinary, culturally-diverse teams in support of their organizational goals.
5. **Communicate effectively** in various settings and contexts by activities such as writing technical reports and peer-reviewed articles and presenting at technical interchanges.

These objectives are accomplished in two different concentrations in the aerospace engineering curriculum, an aeronautics concentration and an astronautics concentration. The concentration in aeronautics focuses on the analysis and design of aircraft and other vehicles that operate primarily within the earth's atmosphere, and the concentration in astronautics focuses on the analysis and design of spacecraft and other vehicles that operate primarily outside the earth's atmosphere. A student in aerospace engineering will choose one of these two concentrations upon choosing the aerospace engineering major.

The B. S. program in Aerospace Engineering is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Aerospace and similarly named engineering programs.

2. DESCRIPTION OF CHANGES

Please see Table 1

Table 1. ASE Curriculum Description of Changes

CONCENTRATION			Aeronautics	Astronautics
Add	**Remove**	**Shift**		
CSE 1284			Allow students to select either CSE 1233 or CSE 1284	Allow students to select either CSE 1233 or CSE 1284
ASE 2711			ASE 2711 ASE Lab I will introduce students to lab methods and tools; this will include some of the experiments from ASE 4113	ASE 2711 ASE Lab I will introduce students to lab methods and tools; this will include some of the experiments from ASE 4113
ASE 3721			ASE 3721 ASE Lab II will have experiments from the current courses of ASE 4113 and ASE 4721. it will prepare students for the hands-on projects in the next semester courses of ASE 4343, ASE 4623, and ASE 3731	ASE 3721 ASE Lab II will have experiments from the current courses of ASE 4113 and ASE 4721. it will prepare students for the hands-on projects in the next semester courses of ASE 4343, ASE 4623, and ASE 3731
ASE 3731			ASE 3731 ASE Lab III will have experiments from ASE 4721 and prepare students for the hands-on portion of their design and capstone experience.	ASE 3731 ASE Lab III will have experiments from ASE 4721 and prepare students for the hands-on portion of their design and capstone experience.
ASE 4313			ASE 4313 Introduction to Aerospace Propulsion will include fundamental topics of aircraft and spacecraft propulsion and will be taken by all ASE students.	ASE 4313 Introduction to Aerospace Propulsion will include fundamental topics of aircraft and spacecraft propulsion and will be taken by all ASE students.
ASE 4712			ASE Capstone I will retain the senior seminar (capstone) from the original ASE 4113, but will include professional development opportunities for seniors.	ASE Capstone I will retain the senior seminar (capstone) from the original ASE 4113, but will include professional development opportunities for seniors.
ASE 4722			ASE Capstone II will retain the continuing senior seminar (capstone) from the original ASE 4721, but will include professional development opportunities for seniors.	ASE Capstone II will retain the continuing senior seminar (capstone) from the original ASE 4721, but will include professional development opportunities

Table 1. ASE Curriculum Description of Changes

CONCENTRATION			Aeronautics	Astronautics
Add	**Remove**	**Shift**		
				for seniors.
		EM 3313	EM 3313 offered earlier to satisfy prerequisites needed for the other courses that have been moved to an earlier semester.	EM 3313 offered earlier to satisfy prerequisites needed for the other courses that have been moved to an earlier semester.
		ASE 3313	ASE 3313 moved from junior spring semester to junior fall semester to accommodate the schedule for students in the astronautics concentration.	ASE 3313 will be required for students in the astro concentration to give a more broad view of ASE.
		GE 3513	GE 3513 moved up one semester to enable technical writing skills prior to the senior year, in which several reports are required.	GE 3513 moved up one semester to enable technical writing skills prior to the senior year, in which several reports are required.
		ASE 4343	ASE 4343 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.	ASE 4343 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.
		ASE 4623	ASE 4623 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.	ASE 4623 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.
		ASE 3813	ASE 3813 will be required for students in the aero concentration to give a more broad view of ASE.	ASE 3813 moved to senior fall semester to make its offering align with the aeronautics schedule.
		Electives	Electives moved from the freshman and sophomore semesters to balance semester hours.	Electives moved from the freshman and sophomore semesters to balance semester hours.
		Humanities	Humanities elective moved from sophomore spring semester to balance semester hours.	Humanities elective moved from sophomore spring semester to balance semester hours.

Table 1. ASE Curriculum Description of Changes

CONCENTRATION			Aeronautics	Astronautics
Add	**Remove**	**Shift**		
	ASE 3243		ASE 3243 Structural Analysis II covers energy methods and is more appropriate as a technical elective. Some of these methods have been covered in EM 3413 and EM 2433.	ASE 3243 Structural Analysis II covers energy methods and is more appropriate as a technical elective. Some of these methods have been covered in EM 3413 and EM 2433
	ECE 3413		ECE 3413 Intro to Electronic Circuits: relevant material from this course is currently covered in ASE 4113 and will be covered in ASE 2711	ECE 3413 Intro to Electronic Circuits: relevant material from this course is currently covered in ASE 4113 and will be covered in ASE 2711
	ASE 4113		ASE 4113 ASE Eng Lab I: Experiments in this lab course are being relocated to ASE 2711 and ASE 3721; the capstone or senior seminar will be kept in ASE 4712.	ASE 4113 ASE Eng Lab I: Experiments in this lab course are being relocated to ASE 2711 and ASE 3721; the capstone or senior seminar will be kept in ASE 4712.
	ASE 4721		ASE 4721 ASE Eng Lab II: experiments in this lab course are being relocated to ASE 3721 and ASE 3731; the continuing capstone or senior seminar will be kept in ASE 4722.	ASE 4721 ASE Eng Lab II: experiments in this lab course are being relocated to ASE 3721 and ASE 3731; the continuing capstone or senior seminar will be kept in ASE 4722.
	ASE 4413		ASE 4413 Aircraft Propulsion is being replaced by ASE 4313 Intro to Aerospace Propulsion. This course will cover fundamental topics of both aircraft and spacecraft propulsion.	
	ASE 4443			ASE 4443 Spacecraft Propulsion is being replaced by ASE 4313 Intro to Aerospace Propulsion. This course will cover fundamental topics of both aircraft and spacecraft propulsion.

3. PROPOSED CURRICULUM OUTLINE

A. Aeronautics Curriculum

CURRENT Degree Description		PROPOSED Degree Description	
Degree: Bachelor of Science Major: Aerospace Engineering Concentration: Aeronautics		Degree: Bachelor of Science Major: Aerospace Engineering Concentration: Aeronautics	
No change to degree description		No change to degree description	
No change to the concentration description		No change to the concentration description	
CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
English (General Education): EN 1103 English Composition I or EN 1163 Accelerated Composition I EN 1113 English Composition II or EN 1173 Accelerated Composition II	 3 3	English (General Education): EN 1103 English Composition I or EN 1163 Accelerated Composition I EN 1113 English Composition II or EN 1173 Accelerated Composition II	 3 3
Fine Arts (General Education): any Gen Ed course	3	Fine Arts (General Education):	3
Natural Sciences (2 labs required from Gen Ed): 6-8 hr **Satisfied by major core**		Natural Sciences (2 labs required from Gen Ed): 6-8 hr **Satisfied by major core**	
Extra Science (if appropriate)		Extra Science (if appropriate)	
Math (General Education): 6-9 hr **Satisfied by major core**		Math (General Education):6-9 hr **Satisfied by major core**	
Humanities (General Education): any Gen Ed courses	6	Humanities (General Education):	6
Social/Behavioral Sciences (Gen Ed): any Gen Ed courses	6	Social/Behavioral Sciences (Gen Ed):	6
Major Core Courses		**Major Core Courses**	
MA 1713 Calculus I[1]	3	MA 1713 Calculus I[1]	3
MA 1723 Calculus II[1]	3	MA 1723 Calculus II[1]	3
MA 2733 Calculus III[1]	3	MA 2733 Calculus III[1]	3
MA 2743 Calculus IV	3	MA 2743 Calculus IV	3
MA 3313 Intro to Linear Algebra[1]	3	MA 3313 Intro to Linear Algebra[1]	3
MA 3253 Differential Equations I[1]	3	MA 3253 Differential Equations I[1]	3
Math/Science Elective[2]	3	Math/Science Elective[2]	3
CH 1211 Investigations in Chemistry I	1	CH 1211 Investigations in Chemistry I	1
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CSE 1233 Computer Programming with C	3	CSE 1233 Comp. Prog. with C **or** **CSE 1284**	3

PH 2213 Physics I[1]	3	PH 2213 Physics I[1]	3
PH 2223 Physics II[1]	3	PH 2223 Physics II[1]	3
Engineering Topics:		**Engineering Topics:**	
ASE 1013 Introduction to Aerospace Engineering	3	ASE 1013 Introduction to Aerospace Engineering	3
ASE 2113 Intro to Aircraft and Spacecraft Perf.	3	ASE 2113 Intro to Aircraft and Spacecraft Perf.	3
ASE 3233 Aerospace Structural Analysis I	3	**ASE 2711 Aerospace Lab I**	1
ASE 3243 Aerospace Structural Analysis II	3	ASE 3233 Aerospace Structural Analysis I	3
ASE 3333 Aerothermodynamics	3	**ASE 3313 Incompressible Aerodynamics**	3
ASE 4113 Aerospace Engineering Laboratory I	3	**ASE 3813 Introduction to Orbital Mechanics**	3
ASE 4123 Aerospace Controls	3	ASE 3333 Aerothermodynamics	3
ASE 4343 Compressible Aerodynamics	3	**ASE 3721 Aerospace Lab II**	1
ASE 4623 Aerospace Structural Design	3	**ASE 3731 Aerospace Lab III**	1
ASE 4721 Aerospace Engineering Laboratory II	1	ASE 4123 Aerospace Controls	3
ECE 3413 Introduction to Electronic Circuits	3	**ASE 4313 Intro to Aerospace Propulsion**	3
EG 1143 Graphics Communication	3	ASE 4343 Compressible Aerodynamics	3
EM 2413 Engineering Mechanics I[1]	3	ASE 4623 Aerospace Structural Design	3
EM 2433 Engineering Mechanics II[1]	3	**ASE 4712 Aerospace Capstone I**	2
EM 3213 Mechanics of Materials[1]	3	**ASE 4722 Aerospace Capstone II**	2
EM 3313 Fluid Mechanics[1]	3	EG 1143 Graphics Communication	3
EM 3413 Vibrations	3	EM 2413 Engineering Mechanics I[1]	3
		EM 2433 Engineering Mechanics II[1]	3
		EM 3213 Mechanics of Materials[1]	3
		EM 3313 Fluid Mechanics[1]	3
		EM 3413 Vibrations	3
Oral Communication Requirements: Satisfied by successful completion of ASE 4513/ASE 4523 or ASE 4533/ASE 4543, ASE 4623, ASE 4721 and GE 3513.		**Oral Communication Requirements:** Satisfied by successful completion of ASE 4513/ASE 4523 or ASE 4533/ASE 4543, ASE 4623, ASE 4712, ASE 4722, and GE 3513.	
Writing Requirement: GE 3513 Technical Writing	3	**Writing Requirement**: GE 3513 Technical Writing	3
Computer Literacy: Satisfied by successful completion of ASE 1013, ASE 2113 and CSE 1233.		**Computer Literacy:** Satisfied by successful completion of ASE 1013, ASE 2113 and CSE 1233 or CSE 1284.	
Concentration Courses		**Concentration Courses**	
Aeronautics Concentration (ARO)		**Aeronautics Concentration (ARO)**	
ASE 3123 Aircraft Flight Dynamics	3	ASE 3123 Aircraft Flight Dynamics	3
ASE 3313 Incompressible Aerodynamics	3	ASE 4513 Aircraft Design I	3
ASE 4413 Aircraft Propulsion	3	ASE 4523 Aircraft Design II	3
ASE 4513 Aircraft Design I	3		
ASE 4523 Aircraft Design II	3		
		Technical Electives (select from):	6
Technical Electives (select from):	6	ASE 3823 Spacecraft Attitude Dynamics	
ASE 3813 Introduction to Orbital Mechanics		ASE 4443 Spacecraft Propulsion	
ASE 3823 Spacecraft Attitude Dynamics		ASE 4133 Automatic Control	
ASE 4443 Spacecraft Propulsion		ASE 4153 Advance Performance	
ASE 4133 Automatic Control		ASE 4163 Introduction to Flight Test Eng.	

ASE 4153 Advance Performance ASE 4163 Introduction to Flight Test Eng ASE 4223 Structural Dynamics ASE 4353 Combustion Theory and Modeling ASE 4423 Introduction to Computational Fluid Dynamics ASE 4433 Fundamentals of Numerical Grid Generation ASE 4553 Engineering Design Optimization ASE 4713 Introduction to Unmanned Aircraft Systems ASE 4813 Advanced Orbital Mechanics EM 4123 Introduction to the Finite Elements Method EM 4133 Mechanics of Composite Materials EM 4143 Engineering Design Optimization		ASE 4223 Structural Dynamics ASE 4353 Combustion Theory and Modeling ASE 4423 Introduction to Computational Fluid Dynamics ASE 4433 Fundamentals of Numerical Grid Generation ASE 4553 Engineering Design Optimization ASE 4713 Introduction to Unmanned Aircraft Systems ASE 4813 Advanced Orbital Mechanics EM 4123 Introduction to the Finite Elements Method EM 4133 Mechanics of Composite Materials EM 4143 Engineering Design Optimization	
Total Hours	**128**	**Total Hours**	**128**

[1] This course requires a minimum grade of C.
[2] The department maintains a list of pre-approved math/science electives on its website. Other courses may be selected upon approval of the department.

B. Astronautics Curriculum

CURRENT Degree Description		PROPOSED Degree Description	
Degree: Bachelor of Science Major: Aerospace Engineering Concentration: Astronautics		Degree: Bachelor of Science Major: Aerospace Engineering Concentration: Astronautics	
No change to degree description		No change to degree description	
No change to the concentration description		No change to the concentration description	
CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
English (General Education): EN 1103 English Composition I or EN 1163 Accelerated Composition I EN 1113 English Composition II or EN 1173 Accelerated Composition II	 3 3	English (General Education): EN 1103 English Composition I or EN 1163 Accelerated Composition I EN 1113 English Composition II or EN 1173 Accelerated Composition II	 3 3
Fine Arts (General Education): any Gen Ed course	3	Fine Arts (General Education):	3
Natural Sciences (2 labs required from Gen Ed): 6-8 hr **Satisfied by major core**		Natural Sciences (2 labs required from Gen Ed):6-8 hr **Satisfied by major core**	
Extra Science (if appropriate)		Extra Science (if appropriate)	
Math (General Education): 6-9 hr		Math (General Education):6-9 hr	

Satisfied by major core		**Satisfied by major core**	
Humanities (General Education): any Gen Ed courses	6	Humanities (General Education):	6
Social/Behavioral Sciences (Gen Ed): any Gen Ed courses	6	Social/Behavioral Sciences (Gen Ed):	6
Major Core Courses		**Major Core Courses**	
MA 1713 Calculus I[1]	3	MA 1713 Calculus I[1]	3
MA 1723 Calculus II[1]	3	MA 1723 Calculus II[1]	3
MA 2733 Calculus III[1]	3	MA 2733 Calculus III[1]	3
MA 2743 Calculus IV	3	MA 2743 Calculus IV	3
MA 3313 Intro to Linear Algebra[1]	3	MA 3313 Intro to Linear Algebra[1]	3
MA 3253 Differential Equations I[1]	3	MA 3253 Differential Equations I[1]	3
Math/Science Elective[2]	3	Math/Science Elective[2]	3
CH 1211 Investigations in Chemistry I	1	CH 1211 Investigations in Chemistry I	1
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CSE 1233 Computer Programming with C	3	CSE 1233 Computer Programming with C **or**	3
PH 2213 Physics I[1]	3	**CSE 1284**	
PH 2223 Physics II[1]	3	PH 2213 Physics I[1]	3
		PH 2223 Physics II[1]	3
Engineering Topics:		**Engineering Topics:**	
ASE 1013 Introduction to Aerospace Eng.	3	ASE 1013 Introduction to Aerospace Engineering	3
ASE 2113 Intro to Aircraft and Spacecraft Perf.	3	ASE 2113 Intro to Aircraft and Spacecraft Perf.	3
ASE 3233 Aerospace Structural Analysis I	3	**ASE 2711 Aerospace Lab I**	1
ASE 3243 Aerospace Structural Analysis II	3	ASE 3233 Aerospace Structural Analysis I	3
ASE 3333 Aerothermodynamics	3	**ASE 3313 Incompressible Aerodynamics**	3
ASE 4113 Aerospace Engineering Laboratory I	3	**ASE 3813 Introduction to Orbital Mechanics**	3
ASE 4123 Aerospace Controls	3	ASE 3333 Aerothermodynamics	3
ASE 4343 Compressible Aerodynamics	3	**ASE 3721 Aerospace Lab II**	1
ASE 4623 Aerospace Structural Design	3	**ASE 3731 Aerospace Lab III**	1
ASE 4721 Aerospace Engineering Laboratory II	1	ASE 4123 Aerospace Controls	3
ECE 3413 Introduction to Electronic Circuits	3	**ASE 4313 Intro to Aerospace Propulsion**	3
EG 1143 Graphics Communication	3	ASE 4343 Compressible Aerodynamics	3
EM 2413 Engineering Mechanics I[1]	3	ASE 4623 Aerospace Structural Design	3
EM 2433 Engineering Mechanics II[1]	3	**ASE 4712 Aerospace Capstone I**	2
EM 3213 Mechanics of Materials[1]	3	**ASE 4722 Aerospace Capstone II**	2
EM 3313 Fluid Mechanics[1]	3	EG 1143 Graphics Communication	3
EM 3413 Vibrations	3	EM 2413 Engineering Mechanics I[1]	3
		EM 2433 Engineering Mechanics II[1]	3
		EM 3213 Mechanics of Materials[1]	3
		EM 3313 Fluid Mechanics[1]	3
		EM 3413 Vibrations	3
Oral Communication Requirements: Satisfied by successful completion of ASE 4513/ASE 4523 or ASE 4533/ASE 4543, ASE 4623, ASE 4721 and GE 3513.		**Oral Communication Requirements:** Satisfied by successful completion of ASE 4513/ASE 4523 or ASE 4533/ASE 4543, ASE 4623, ASE 4712, ASE 4722, and GE 3513.	
Writing Requirement: GE 3513 Technical Writing	3	**Writing Requirement**: GE 3513 Technical Writing	3
Computer Literacy: Satisfied by successful completion of ASE 1013, ASE 2113 and CSE 1233.		**Computer Literacy:** Satisfied by successful completion of ASE 1013, ASE 2113 and CSE 1233 or CSE 1284	

Concentration Courses		**Concentration Courses**	
Astronautics Concentration (ASO):		**Astronautics Concentration (ASO):**	
ASE 3813 Introduction to Orbital Mechanics	3	ASE 3823 Spacecraft Attitude Dynamics	3
ASE 3823 Spacecraft Attitude Dynamics	3	ASE 4533 Spacecraft Design I	3
ASE 4443 Spacecraft Propulsion	3	ASE 4543 Spacecraft Design II	3
ASE 4533 Spacecraft Design I	3		
ASE 4543 Spacecraft Design II	3		
		Technical Electives (select from):	
Technical Electives (select from):	6	ASE 3123 Aircraft Attitude Dynamics	6
ASE 3313 Incompressible Aerodynamics		ASE 4413 Aircraft Propulsion	
ASE 3123 Aircraft Attitude Dynamics		ASE 4133 Automatic Control	
ASE 4413 Aircraft Propulsion		ASE 4153 Advance Performance	
ASE 4133 Automatic Control		ASE 4163 Introduction to Flight Test Engineering	
ASE 4153 Advance Performance		ASE 4223 Structural Dynamics	
ASE 4163 Introduction to Flight Test Engineering		ASE 4353 Combustion Theory and Modeling	
ASE 4223 Structural Dynamics		ASE 4423 Introduction to Computational Fluid Dynamics	
ASE 4353 Combustion Theory and Modeling		ASE 4433 Fundamentals of Numerical Grid Generation	
ASE 4423 Introduction to Computational Fluid Dynamics		ASE 4553 Engineering Design Optimization	
ASE 4433 Fundamentals of Numerical Grid Generation		ASE 4713 Introduction to Unmanned Aircraft Systems	
ASE 4553 Engineering Design Optimization		ASE 4813 Advanced Orbital Mechanics	
ASE 4713 Introduction to Unmanned Aircraft Systems		EM 4123 Introduction to the Finite Elements Method	
ASE 4813 Advanced Orbital Mechanics		EM 4133 Mechanics of Composite Materials	
EM 4123 Introduction to the Finite Elements Method		EM 4143 Engineering Design Optimization	
EM 4133 Mechanics of Composite Materials			
EM 4143 Engineering Design Optimization			
Total Hours	**128**	**Total Hours**	**128**

[1] This course requires a minimum grade of C.

[2] The department maintains a list of pre-approved math/science electives on its website. Other courses may be selected upon approval of the department.

3. JUSTIFICATION AND LEARNING OUTCOMES

Overall, the curriculum is being updated/modified to provide a more current and uniform distribution of aerospace engineering topics, laboratory assignments, and projects without sacrificing the rigor of the program. This includes introducing laboratory courses during the sophomore and junior semesters, focusing capstone courses on undergraduate research seminars and professional development in the senior year and allowing more flexibility in the choice of technical electives. This will increase student preparation as technical skills will be developed throughout the curriculum coupled with professional development.

4. Effective Date

Fall 2025

5. Four-Letter Abbreviation

ASE. The department proposes no change.

6. Letter of Support

See attachment.

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF AEROSPACE ENGINEERING

Dr. Rani W. Sullivan
Professor & Department Head
Bill and Carolyn Cobb Chair
sullivan@ae.msstate.edu

6 February 2025

Dr. Andy Perkins
Chair, University Committee on Courses and Curricula
Mississippi State, MS 39762

Dear Dr. Perkins,
The Department of Aerospace Engineering (ASE) is submitting a curriculum modification. The table on the next page lists the changes and an explanation for each change. This letter is to certify that all ASE faculty members have reviewed and approve this ASE curriculum modification.

Sincerely,

Rani Sullivan
Rani Sullivan (Feb 6, 2025 09:23 CST)

Rani W. Sullivan, PhD
Professor and Department Head
Bill and Carolyn Cobb Chair

Vivek Khare	Vivek Khare Vivek Khare (Feb 6, 2025 10:41 CST)
Han-Gyu Kim	Han-Gyu Kim Han-Gyu Kim (Feb 7, 2025 06:53 CST)
Craig Merrett	Craig Merrett Craig Merrett (Feb 6, 2025 16:35 CST)
Timothy W. Moore	Timothy Moore Timothy Moore (Feb 6, 2025 09:32 CST)
Shreyas Narsipur	Shreyas Narsipur Shreyas Narsipur (Feb 6, 2025 16:31 CST)
Adrian Sescu	Adrian Sescu Adrian Sescu (Feb 6, 2025 20:21 CST)
Carmen Sescu	Carmen Sescu Carmen Sescu (Feb 6, 2025 11:08 CST)
Vilas Shinde	Vilas Shinde Vilas Shinde (Feb 6, 2025 09:41 CST)
Chuangchuang Sun	Chuangchuang Sun Chuangchuang Sun (Feb 6, 2025 09:21 CST)
Calvin R. Walker	Calvin R. Walker Calvin R. Walker (Feb 6, 2025 09:18 CST)
Andrew J. Walters	Andy Walters Andy Walters (Feb 6, 2025 09:59 CST)
Robert R. Wolz	Robert Wolz Robert Wolz (Feb 6, 2025 15:29 CST)

The following table summarizes the changes for the ASE Degree Modification.

CONCENTRATION			Aeronautics	Astronautics
Add	Remove	Shift		
CSE 1284			Allow students to select either CSE 1233 or CSE 1284	Allow students to select either CSE 1233 or CSE 1284
ASE 2711			ASE 2711 ASE Lab I will introduce students to lab methods and tools; this will include some of the experiments from ASE 4113	ASE 2711 ASE Lab I will introduce students to lab methods and tools; this will include some of the experiments from ASE 4113
ASE 3721			ASE 3721 ASE Lab II will have experiments from the current courses of ASE 4113 and ASE 4721 it will prepare students for the hands-on projects in the next semester courses of ASE 4343, ASE 4623, and ASE 3731	ASE 3721 ASE Lab II will have experiments from the current courses of ASE 4113 and ASE 4721. it will prepare students for the hands-on projects in the next semester courses of ASE 4343, ASE 4623, and ASE 3731
ASE 3731			ASE 3731 ASE Lab III will have experiments from ASE 4721 and prepare students for the hands-on portion of their design and capstone experience.	ASE 3731 ASE Lab III will have experiments from ASE 4721 and prepare students for the hands-on portion of their design and capstone experience.
ASE 4313			ASE 4313 Introduction to Aerospace Propulsion will include fundamental topics of aircraft and spacecraft propulsion and will be taken by all ASE students.	ASE 4313 Introduction to Aerospace Propulsion will include fundamental topics of aircraft and spacecraft propulsion and will be taken by all ASE students.
ASE 4712			ASE Capstone I will retain the senior seminar (capstone) from the original ASE 4113, but will include professional development opportunities for seniors.	ASE Capstone I will retain the senior seminar (capstone) from the original ASE 4113, but will include professional development opportunities for seniors.
ASE 4722			ASE Capstone II will retain the continuing senior seminar (capstone) from the original ASE 4721, but will include professional development activities for seniors.	ASE Capstone II will retain the continuing senior seminar (capstone) from the original ASE 4721, but will include professional development activities for seniors.
		EM 3313	EM 3313 offered earlier to satisfy prerequisites needed for the other courses that have been moved to an earlier semester.	EM 3313 offered earlier to satisfy prerequisites needed for the other courses that have been moved to an earlier semester.
		ASE 3313	ASE 3313 moved from junior spring semester to junior fall semester to accommodate the schedule for students in the astronautics concentration.	ASE 3313 will be required for students in the astro concentration to give a more broad view of ASE.
		GE 3513	GE 3513 moved up one semester to enable technical writing skills prior to the senior year, in which several reports are required.	GE 3513 moved up one semester to enable technical writing skills prior to the senior year, in which several reports are required.
		ASE 4343	ASE 4343 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.	ASE 4343 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.
		ASE 4623	ASE 4623 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.	ASE 4623 moved from senior fall semester to junior spring semester to allow for all concepts to be covered prior to senior semester capstone and design courses.
		ASE 3813	ASE 3813 will be required for students in the aero concentration to give a more broad view of ASE.	ASE 3813 moved to senior fall semester to make its offering align with the aeronautics schedule.
		Electives	Electives moved from the freshman and sophomore semesters to balance semester hours.	Electives moved from the freshman and sophomore semesters to balance semester hours.
		Humanities	Humanities elective moved from sophomore spring semester to balance semester hours.	Humanities elective moved from sophomore spring semester to balance semester hours.
	ASE 3243		ASE 3243 Structural Analysis II covers energy methods and is more appropriate as a technical elective. Some of these methods have been covered in EM 3413 and EM 2433.	ASE 3243 Structural Analysis II covers energy methods and is more appropriate as a technical elective. Some of these methods have been covered in EM 3413 and EM 2433.
	ECE 3413		ECE 3413 Intro to Electronic Circuits: relevant material from this course is currently covered in ASE 4113 and will be covered in ASE 2711	ECE 3413 Intro to Electronic Circuits: relevant material from this course is currently covered in ASE 4113 and will be covered in ASE 2711
	ASE 4113		ASE 4113 ASE Eng Lab I: Experiments in this lab course are being relocated to ASE 2711 and ASE 3721; the capstone or senior seminar will be kept in ASE 4712.	ASE 4113 ASE Eng Lab I: Experiments in this lab course are being relocated to ASE 2711 and ASE 3721; the capstone or senior seminar will be kept in ASE 4712.
	ASE 4721		ASE 4721 ASE Eng Lab II: Experiments in this lab course are being relocated to ASE 3721 and ASE 3731; the continuing capstone or senior seminar will be kept in ASE 4722	ASE 4721 ASE Eng Lab II: Experiments in this lab course are being relocated to ASE 3721 and ASE 3731; the continuing capstone or senior seminar will be kept in ASE 4722.
	ASE 4413		ASE 4413 Aircraft Propulsion is being replaced by ASE 4313 Intro to Aerospace Propulsion. This course will cover fundamental topics of both aircraft and spacecraft propulsion.	
	ASE 4443			ASE 4443 Spacecraft Propulsion is being replaced by ASE 4313 Intro to Aerospace Propulsion. This course will cover fundamental topics of both aircraft and spacecraft propulsion.

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 BCoE **Department:** Industrial and Systems Engineering

Contact Person: Dr. Junfeng Ma **Mail Stop:** 9542 **E-mail:** ma@ise.msstate.edu

Nature of Change: Modification **Date Initiated:** 09/01/2024

Current Degree (BS, MS, etc.): Master of Science

Current Major: Industrial and Systems Engineering

Current Concentration(s): 1. Human Factors and Ergonomics 2. Industrial Systems 3. Operations Research 4. Management Systems Engineering 5. Manufacturing Systems 6. Data Analytics

Current Campus(es): ☑ Starkville ☐ Meridian ☑ Distance ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): MS

Effective Date:

Semester	Year
Fall	2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: Industrial and Systems Engineering

Proposed Concentration(s): 1. Human Factors and Ergonomics 2. Industrial Systems 3. Operations Research 4. Management Systems Engineering 5. Manufacturing Systems 6. Data Analytics 7. Systems Engineering

Proposed Campus(es)

☑ Starkville
☐ Meridian
☑ Distance
☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

Add the Systems Engineering concentration to the current Master of Science in Industrial and Systems Engineering

Approved: **Date:**

Mohammad Marufuzzaman — Digitally signed by Mohammad Marufuzzaman Date: 2025.03.28 11:21:28 -05'00'

Department Head

Director of Academic Quality — 4/21/25

Chair, College or School Curriculum Committee

Dean of College or School — 23 APR 2025

Andy Perkins — Digitally signed by Andy D. Perkins Date: 2025.05.29 14:35:13 -05'00'

Chair, University Committee on Courses and Curricula

Russell Carr — Digitally signed by Russell Carr Date: 2025.05.22 17:23:20 -05'00' — 5/22/25

Chair, Graduate Council (if applicable)

Peter Liam Ryan — June 12th, 2025

Chair, Deans Council

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

JUSTIFICATION

The Systems Engineering Concentration (SYEG) is designed for students to develop system-level problem-solving skills. Students will master modern systems engineering skills, including models, tools, concepts, and methodologies to analyze, design, and improve new and existing human-centered systems. Blended with core systems engineering technical and engineering management courses, this concentration is dedicated to training systems engineers who are ready to advance their careers in management and leadership in industry, government agencies, academies, and other organizations.

This new concentration will meet the growing national and state needs for engineers with systems engineering skills. Systems engineering is important because it helps industries optimize their performance and improve process operations. Implementing it into a business model means organizations can help reduce costs by identifying more efficient ways of doing business and by identifying system bottlenecks.

This program is unique in preparing industrial engineers with system engineering skills. This concentration bridges the gap between real-world industrial applications and system science methods. The new concentration focuses on methodology and applications.

This new concentration is expected to increase the potential job placements of ISE graduates by preparing them with the new skillset of system engineering. Courses included in the Systems Engineering concentrations have been offered in the past few years. These courses have tremendously helped ISE students and students from other disciplines to secure higher-paid jobs in the area of systems management, systems decision support, and others.

Student Learning Outcomes

Outcome 1: Advanced understanding of Systems Engineering – students will demonstrate an advanced understanding of systems engineering principles and techniques.

Assessment description:

- Student performance will be assessed primarily through course evaluations, which include quizzes, examinations, projects, and class activities. The achievement of learning objectives will be measured across the four core required courses: IE 6753 Systems Engineering and Analysis, IE 6773 Systems Simulation I, IE 8593 Model-Based Systems Engineering, and IE 8583 Enterprise Systems Engineering.
- Students must successfully complete all required courses within this concentration to fulfill the program requirements.

Outcome 2: Effectively communicate technical materials – students will communicate technical material effectively in written and oral format.

Assessment description:

- Graduate students pursuing the thesis track will engage in research under the supervision of their academic advisors. Both the thesis proposal and the final defense will be assessed through written documentation and oral presentation of their research findings. Evaluation will be conducted by members of the thesis committee. Upon completion, students will submit their research for publication.
- Graduate students on the non-thesis track are required to complete a comprehensive examination, which will be evaluated in both written and oral formats.

Outcome 3: Prepared for professional career – students will have acquired the necessary skills for a professional employment position in systems engineering or a related discipline or gone on to pursue a doctorate.

Assessment description:

- Data on graduates' employment outcomes will be collected and analyzed.
- Statistics regarding graduates' acceptance into doctoral programs will also be gathered.

GRADUATE DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing Graduate Degree. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Please include the course prefix, number, and title in both columns. Expand rows as needed.

CURRENT Degree Description	PROPOSED Degree Description
Degree: M.S. Major: Industrial and Systems Engineering Concentrations: Human Factors and Ergonomics (HFE), Industrial Systems (SYS), Management Systems Engineering (MGTS), Manufacturing Systems (MFGS), Operations Research (OPRS), Data Analytics (DAAS)	Degree: M.S. Major: Industrial and Systems Engineering Concentrations: Human Factors and Ergonomics (HFE), Industrial Systems (SYS), Management Systems Engineering (MGTS), Manufacturing Systems (MFGS), Operations Research (OPRS), Data Analytics (DAAS), **Systems Engineering (SYEG)**
Old degree catalog description: Admission Criteria Typically, an entering M.S. student should have a grade point average of 3.00 out of 4.00 for the junior and senior years. Likewise, an entering Ph.D. student with an M.S. degree should have a 3.50 out of 4.00 grade point average on the M.S. work, while a Ph.D. student entering with only a B.S. degree is expected to have a 3.50 out of 4.00 on the last two years of the undergraduate program. A student with a lower GPA may still be eligible for admission based on outstanding qualifications in other areas. All entering students must submit GRE general-test scores. International students must have a minimum TOEFL score of 550 PBT (79 iBT) or IELTS score of 6.5. The department reviews completed applications four times a year: February 15, May 15, August 15, and November 15. Incomplete or not fully processed applications will be reviewed during the next cycle. Provisional Admission An applicant who has not fully met the GPA requirement stipulated by the University may be admitted on a provisional basis. The provisionally-admitted student is eligible for a change to regular status after receiving a 3.00 GPA on the first 9 hours of graduate courses at Mississippi State University (with no grade lower than a C). The first 9 hours of graduate courses must be within the student's Program of Study. Courses with an S grade, transfer credits, or credits earned while in Unclassified status cannot be used to satisfy this requirement. If a 3.00 is not attained, the provisional student shall be dismissed from the graduate program. Academic departments may set higher standards for students to fulfill provisional requirements; a student admitted with provisional status should contact the graduate coordinator for the program's specific requirements. While in the provisional status, a student is not eligible to hold a graduate assistantship. Academic Performance	New degree catalog description: Admission Criteria Typically, an entering M.S. student should have a grade point average of 3.00 out of 4.00 for the junior and senior years. Likewise, an entering Ph.D. student with an M.S. degree should have a 3.50 out of 4.00 grade point average on the M.S. work, while a Ph.D. student entering with only a B.S. degree is expected to have a 3.50 out of 4.00 on the last two years of the undergraduate program. A student with a lower GPA may still be eligible for admission based on outstanding qualifications in other areas. All entering students must submit GRE general-test scores. International students must have a minimum TOEFL score of 550 PBT (79 iBT) or IELTS score of 6.5. The department reviews completed applications four times a year: February 15, May 15, August 15, and November 15. Incomplete or not fully processed applications will be reviewed during the next cycle. Provisional Admission An applicant who has not fully met the GPA requirement stipulated by the University may be admitted on a provisional basis. The provisionally-admitted student is eligible for a change to regular status after receiving a 3.00 GPA on the first 9 hours of graduate courses at Mississippi State University (with no grade lower than a C). The first 9 hours of graduate courses must be within the student's Program of Study. Courses with an S grade, transfer credits, or credits earned while in Unclassified status cannot be used to satisfy this requirement. If a 3.00 is not attained, the provisional student shall be dismissed from the graduate program. Academic departments may set higher standards for students to fulfill provisional requirements; a student admitted with provisional status should contact the graduate coordinator for the program's specific requirements. While in the provisional status, a student is not eligible to hold a graduate assistantship. Academic Performance

In addition to the criteria defined in the current Bulletin of the Graduate School, unsatisfactory performance in the graduate program in Industrial and Systems Engineering is defined as any of the following. • Failure to maintain a 3.00 average in the M.S. program or 3.30 in the Ph.D. program, • Failure of the qualifying exam (Ph.D. students only), • Failure of the preliminary exam (Ph.D. students only), • Failure of the comprehensive final exam (M.S. non-thesis option only), • Unsatisfactory evaluation of thesis or dissertation, or • A failure of the required component of the program of study. Any one of these will constitute the basis for review for possible dismissal. If the students drops six or more quality points below the required average (3.00 for M.S. or 3.30 for Ph.D.), the graduate coordinator will review the record along with the student's graduate committee and will recommend a final course of action, which will be immediate dismissal or the establishment of a probationary period in which corrective action must take place. While on probation, the student is not eligible to receive an assistantship and is required to raise his/her cumulative GPA to 3.00 for M.S. or 3.30 for Ph.D. by the end of the following semester of enrollment. During that semester, the student must enroll in 9 credit hours of coursework; Directed Individual Study courses are excluded. In case of a dismissal from the graduate program, a student may appeal his/her academic dismissal according to the following procedure. • Within four weeks of being notified of the official dismissal, the student must present the request and related explanation in writing to the graduate coordinator. The graduate coordinator will review the appeal with the appropriate departmental committee and render a recommendation. • If the appeal at the departmental level is unsuccessful, a student may then appeal to the Associate Dean for Research and Graduate Studies in the college. • If the appeal at the college level is unsuccessful, the student may then appeal to the Office of the Provost.	In addition to the criteria defined in the current Bulletin of the Graduate School, unsatisfactory performance in the graduate program in Industrial and Systems Engineering is defined as any of the following. • Failure to maintain a 3.00 average in the M.S. program or 3.30 in the Ph.D. program, • Failure of the qualifying exam (Ph.D. students only), • Failure of the preliminary exam (Ph.D. students only), • Failure of the comprehensive final exam (M.S. non-thesis option only), • Unsatisfactory evaluation of thesis or dissertation, or • A failure of the required component of the program of study. Any one of these will constitute the basis for review for possible dismissal. If the students drops six or more quality points below the required average (3.00 for M.S. or 3.30 for Ph.D.), the graduate coordinator will review the record along with the student's graduate committee and will recommend a final course of action, which will be immediate dismissal or the establishment of a probationary period in which corrective action must take place. While on probation, the student is not eligible to receive an assistantship and is required to raise his/her cumulative GPA to 3.00 for M.S. or 3.30 for Ph.D. by the end of the following semester of enrollment. During that semester, the student must enroll in 9 credit hours of coursework; Directed Individual Study courses are excluded. In case of a dismissal from the graduate program, a student may appeal his/her academic dismissal according to the following procedure. • Within four weeks of being notified of the official dismissal, the student must present the request and related explanation in writing to the graduate coordinator. The graduate coordinator will review the appeal with the appropriate departmental committee and render a recommendation. • If the appeal at the departmental level is unsuccessful, a student may then appeal to the Associate Dean for Research and Graduate Studies in the college. • If the appeal at the college level is unsuccessful, the student may then appeal to the Office of the Provost.
Old Concentration description: Master of Science in Industrial and Systems Engineering	New Concentration description: Master of Science in Industrial and Systems Engineering

with Human Factors and Ergonomics Concentration (HFE) - Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- IE 3123
- IE 4613/6613

IE 6773	Systems Simulation I	3
IE 6623	Engineering Statistics II	3
At least 3 HFE ISE courses		9
At least one non-HFE ISE course		3
IE 9000	Research in Industrial Engineering	6
At least one course from Mathematics (MA), Statistics (ST), or Computer Science and Engineering (CSE)		3
At least one course from a supporting area (Biological Engineering [ABE], Psychology [PSY], Kinesiology [KI], Mechanical Engineering [ME], Mathematics [MA], Statistics [ST], etc.)		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.

Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree. IE 9000 does not apply to M.S. students.

Master of Science in Industrial and Systems Engineering with Human Factors and Ergonomics Concentration (HFE) - Non-Thesis

Prerequisites (foundational courses) are:

- MA 1713

with Human Factors and Ergonomics Concentration (HFE) - Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- IE 3123
- IE 4613/6613

IE 6773	Systems Simulation I	3
IE 6623	Engineering Statistics II	3
At least 3 HFE ISE courses		9
At least one non-HFE ISE course		3
IE 9000	Research in Industrial Engineering	6
At least one course from Mathematics (MA), Statistics (ST), or Computer Science and Engineering (CSE)		3
At least one course from a supporting area (Biological Engineering [ABE], Psychology [PSY], Kinesiology [KI], Mechanical Engineering [ME], Mathematics [MA], Statistics [ST], etc.)		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.

Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree. IE 9000 does not apply to M.S. students.

Master of Science in Industrial and Systems Engineering with Human Factors and Ergonomics Concentration (HFE) - Non-Thesis

Prerequisites (foundational courses) are:

- MA 1713

- MA 1723
- MA 2733
- MA 2743
- IE 3123
- IE 4613/6613

IE 6773	Systems Simulation I	3
IE 6623	Engineering Statistics II	3
At least three HFE ISE courses		9
At least two non-HFE ISE courses		6
At least two courses from Mathematics (MA), Statistics (ST), or Computer Science and Engineering (CSE)		6
At least one course from a supporting area (Biological Engineering [ABE], Psychology [PSY], Kinesiology [KI], Mechanical Engineering [ME], Mathematics [MA], Statistics [ST], etc.)		3
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.
Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program.
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum.
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Industrial Systems Concentration (SYS) - Thesis
Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- Computer programming proficiency
- IE 3123
- IE 3913
- IE 4333

- MA 1723
- MA 2733
- MA 2743
- IE 3123
- IE 4613/6613

IE 6773	Systems Simulation I	3
IE 6623	Engineering Statistics II	3
At least three HFE ISE courses		9
At least two non-HFE ISE courses		6
At least two courses from Mathematics (MA), Statistics (ST), or Computer Science and Engineering (CSE)		6
At least one course from a supporting area (Biological Engineering [ABE], Psychology [PSY], Kinesiology [KI], Mechanical Engineering [ME], Mathematics [MA], Statistics [ST], etc.)		3
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.
Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program.
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum.
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Industrial Systems Concentration (SYS) - Thesis
Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- Computer programming proficiency
- IE 3123
- IE 3913
- IE 4333

• IE 4613/6613		
IE 6773	Systems Simulation I	3
All other courses to be selected by the student along with the academic advisor and graduate program committee		21
IE 9000	Research in Industrial Engineering	6
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.
Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Industrial Systems Concentration (SYS) - Non-Thesis
Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- Computer programming proficiency
- IE 3123
- IE 3913
- IE 4333
- IE 4613/6613

Total 12 hours of 8000-level courses selected by the student along with the academic advisor and grade program committee.		12
Other courses to be selected by the student along with the academic advisor and grade program committee.		18
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis

• IE 4613/6613		
IE 6773	Systems Simulation I	3
All other courses to be selected by the student along with the academic advisor and graduate program committee		21
IE 9000	Research in Industrial Engineering	6
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.
Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Industrial Systems Concentration (SYS) - Non-Thesis
Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- Computer programming proficiency
- IE 3123
- IE 3913
- IE 4333
- IE 4613/6613

Total 12 hours of 8000-level courses selected by the student along with the academic advisor and grade program committee.		12
Other courses to be selected by the student along with the academic advisor and grade program committee.		18
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis

degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program.
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Management Systems Engineering Concentration (MGTS) - Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accredited program or permission from the MSE Technical Committee
- IE 3913
- IE 4613/6613

IE 6513	Engineering Administration	3
IE 6533	Project Management	3
IE 6573	Process Improvement Engineering	3
IE 8583	Enterprise Systems Engineering	3
IE 8913	Engineering Economy II	3
At least two non-MSE ISE courses		6
IE 9000	Research in Industrial Engineering	6
Course to be selected by the student along with academic advisor and graduate program committee		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.

Additional requirements are:

1. A minimum of 12 hours at the 8000-level is

degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program.
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Management Systems Engineering Concentration (MGTS) - Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accredited program or permission from the MSE Technical Committee
- IE 3913
- IE 4613/6613

IE 6513	Engineering Administration	3
IE 6533	Project Management	3
IE 6573	Process Improvement Engineering	3
IE 8583	Enterprise Systems Engineering	3
IE 8913	Engineering Economy II	3
At least two non-MSE ISE courses		6
IE 9000	Research in Industrial Engineering	6
Course to be selected by the student along with academic advisor and graduate program committee		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.

Additional requirements are:

1. A minimum of 12 hours at the 8000-level is

required.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Management Systems Engineering Concentration (MGTS) - Non-Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accedited program or permission from the MSE Technical Committee
- IE 3913
- IE 4613/6613

IE 6513	Engineering Administration	3
IE 6533	Project Management	3
IE 6573	Process Improvement Engineering	3
IE 8583	Enterprise Systems Engineering	3
IE 8913	Engineering Economy II	3
At least two non-MSE ISE courses		6
Other courses to be selected by the student along with the academic advisor and graduate program committee		9
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
2. No program can contain more than 15 hours of courses that are required in the bachelor's

required.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Management Systems Engineering Concentration (MGTS) - Non-Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accedited program or permission from the MSE Technical Committee
- IE 3913
- IE 4613/6613

IE 6513	Engineering Administration	3
IE 6533	Project Management	3
IE 6573	Process Improvement Engineering	3
IE 8583	Enterprise Systems Engineering	3
IE 8913	Engineering Economy II	3
At least two non-MSE ISE courses		6
Other courses to be selected by the student along with the academic advisor and graduate program committee		9
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
2. No program can contain more than 15 hours of courses that are required in the bachelor's

degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Manufacturing Systems Concentration (MFGS) - Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accredited program or permission from the Manufacturing Systems Technical Committee
- Computer programming proficiency
- IE 4333/6333
- IE 4613/6613

IE 6653	Industrial Quality Control	3
IE 6773	Systems Simulation I	3
IE 8333	Production Control Systems II	3
At least two Manufacturing Systems ISE courses		6
IE 9000	Research in Industrial Engineering	6
At least two non-Manufacturing Systems ISE courses		6
Course to be selected by the student along with the academic advisor and graduate program committee		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.

Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Manufacturing Systems Concentration (MFGS) - Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accredited program or permission from the Manufacturing Systems Technical Committee
- Computer programming proficiency
- IE 4333/6333
- IE 4613/6613

IE 6653	Industrial Quality Control	3
IE 6773	Systems Simulation I	3
IE 8333	Production Control Systems II	3
At least two Manufacturing Systems ISE courses		6
IE 9000	Research in Industrial Engineering	6
At least two non-Manufacturing Systems ISE courses		6
Course to be selected by the student along with the academic advisor and graduate program committee		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.

Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Manufacturing Systems Concentration (MFGS) - Non-Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accredited program or permission from the Manufacturing Systems Technical Committee
- Computer programming proficiency
- IE 4333/6333
- IE 4613/6613

IE 6653	Industrial Quality Control	3
IE 6773	Systems Simulation I	3
IE 8333	Production Control Systems II	3
At least two Manufacturing Systems ISE courses		6
At least two non-Manufacturing Systems ISE courses		6
Other courses to be selected by the student along with the academic advisor and graduate program committee		9
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Operations Research Concentration (OPRS) - Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733

Master of Science in Industrial and Systems Engineering with Manufacturing Systems Concentration (MFGS) - Non-Thesis

Prerequisites (foundational courses) are:

- B.S. in engineering from an ABET-accredited program or permission from the Manufacturing Systems Technical Committee
- Computer programming proficiency
- IE 4333/6333
- IE 4613/6613

IE 6653	Industrial Quality Control	3
IE 6773	Systems Simulation I	3
IE 8333	Production Control Systems II	3
At least two Manufacturing Systems ISE courses		6
At least two non-Manufacturing Systems ISE courses		6
Other courses to be selected by the student along with the academic advisor and graduate program committee		9
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Operations Research Concentration (OPRS) - Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733

- MA 2743
- Computer programming proficiency
- IE 4613/6613

IE 6733	Linear Programming	3
IE 6773	Systems Simulation I	3
At least two OR ISE ccourses		6
IE 9000	Research in Industrial Engineering	6
At least two non-OR ISE courses		6
At least one course from Computer Science (CSE), Mathematics (MA), or Statistics (ST)		3
Course to be selected by the student along with the academic advisor and graduate program committee		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.
Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Operations Research Concentration (OPRS) - Non-Thesis
Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- Computer programming proficiency
- IE 4613/6613

IE 6733	Linear Programming	3
IE 6773	Systems Simulation I	3

- MA 2743
- Computer programming proficiency
- IE 4613/6613

IE 6733	Linear Programming	3
IE 6773	Systems Simulation I	3
At least two OR ISE ccourses		6
IE 9000	Research in Industrial Engineering	6
At least two non-OR ISE courses		6
At least one course from Computer Science (CSE), Mathematics (MA), or Statistics (ST)		3
Course to be selected by the student along with the academic advisor and graduate program committee		3
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required.
Additional requirements are:

1. A minimum of 12 hours coursework must be at the 8000-level or higher.
2. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
3. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
4. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Operations Research Concentration (OPRS) - Non-Thesis
Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- Computer programming proficiency
- IE 4613/6613

IE 6733	Linear Programming	3
IE 6773	Systems Simulation I	3

At least two Operations Research ISE courses	6
At least two non-Operations Research ISE courses	6
At least one course com Computer Science (CSE), Mathematics (MA), or Statistics (ST)	3
Courses to be selected by the student along with the academic advisor and graduate program committee	9
Total Hours	30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree. IE 9000 does not apply to M.S. students.

Master of Science in Industrial and Systems Engineering with Data Analytics Concentration (DAAS) – Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- MA 3113
- Computer programming proficiency
- IE 4613

IE 6623	Engineering Statistics II	3
IE 6683	Machine Learning with Industrial Engineering Applications	3
IE 8623	Advanced Data Analytics for Complex Systems	3

At least two Operations Research ISE courses	6
At least two non-Operations Research ISE courses	6
At least one course com Computer Science (CSE), Mathematics (MA), or Statistics (ST)	3
Courses to be selected by the student along with the academic advisor and graduate program committee	9
Total Hours	30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 8000 Research/Thesis does not apply to non-thesis students.

Additional requirements are:

1. No ISE graduate student may list ST 8114 or IE 6613 on his/her graduate program
2. No program can contain more than 15 hours of courses that are required in the bachelor's degree curriculum
3. No program can contain more than 6 hours of Directed Individual Study (IE 7000).

The non-thesis Master of Science requires at least 30 credit hours of coursework above the baccalaureate degree. IE 9000 does not apply to M.S. students.

Master of Science in Industrial and Systems Engineering with Data Analytics Concentration (DAAS) – Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- MA 3113
- Computer programming proficiency
- IE 4613

IE 6623	Engineering Statistics II	3
IE 6683	Machine Learning with Industrial Engineering Applications	3
IE 8623	Advanced Data Analytics for Complex Systems	3

At Least 3 ISE electives in Data Analytics. See academic advisor for list of approved electives		9
At least one graduate class from CSE, ECE, or Math/Stat		3
Courses to be selected by the student along with the academic advisor and graduate program committee		3
Thesis Research		6
IE 9000	Research in Industrial Engineering	
Total Hours		30

1. The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Data Analytics Concentration (DAAS) - Non-Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- MA 3113
- Computer programming proficiency
- IE 4613

IE 6623	Engineering Statistics II	3
IE 6683	Machine Learning with Industrial Engineering Applications	3
IE 8623	Advanced Data Analytics for Complex Systems	3
At least three ISE elective courses in Data Analytics. See academic advisor for a list of approved electives		9
At least one graduate class from CSE, ECE, or Math/Stat		3
Courses to be selected by the student along with the academic advisor and graduate program committee		9
Total Hours		30

At Least 3 ISE electives in Data Analytics. See academic advisor for list of approved electives		9
At least one graduate class from CSE, ECE, or Math/Stat		3
Courses to be selected by the student along with the academic advisor and graduate program committee		3
Thesis Research		6
IE 9000	Research in Industrial Engineering	
Total Hours		30

1. The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree.

Master of Science in Industrial and Systems Engineering with Data Analytics Concentration (DAAS) - Non-Thesis

Prerequisites (foundational courses) are:

- MA 1713
- MA 1723
- MA 2733
- MA 2743
- MA 3113
- Computer programming proficiency
- IE 4613

IE 6623	Engineering Statistics II	3
IE 6683	Machine Learning with Industrial Engineering Applications	3
IE 8623	Advanced Data Analytics for Complex Systems	3
At least three ISE elective courses in Data Analytics. See academic advisor for a list of approved electives		9
At least one graduate class from CSE, ECE, or Math/Stat		3
Courses to be selected by the student along with the academic advisor and graduate program committee		9
Total Hours		30

1. A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 9000 Research/Thesis does not apply to non-thesis students.	1. A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 9000 Research/Thesis does not apply to non-thesis students. **Master of Science in Industrial and Systems Engineering with Systems Engineering Concentration (SYEG) – Thesis** **This concentration is designed for students to develop system-level problem-solving skills. Students will master modern systems engineering skills, including models, tools, concepts, and methodologies to analyze, design, and improve new and existing human-centered systems. Blended with core systems engineering technical and engineering management courses, this concentration is dedicated to training systems engineers who are ready to advance their careers in management and leadership in industry, government agencies, academies, and other organizations.** **Prerequisites (foundational courses) are:** - **MA 1713, MA 1723: Calculus I and Calculus II** - **IE 3913 Engineering Economy I** - **IE 6613 Engineering Statistics I** - **Computer Programming Proficiency**

IE 6753	**Systems Engineering and Analysis**	**3**
IE 8593	**Model-based Systems Engineering**	**3**
IE 6773	**Systems Simulation I**	**3**
IE 8583	**Enterprise Systems Engineering**	**3**
At least one course from the following: **IE 6333 Production Control Systems I** **IE 6673 Reliability Engineering** **IE 8333 Production Control Systems II** **IE 8353 Manufacturing Systems Modeling** **IE 8623 Advanced Data Analytics for Complex Systems** **IE 8773 Systems Simulation II**		**3**
At least one course from the following: **IE 6533 Project Management** **IE 6573 Process Improvement Engineering** **IE 6543 Logistics Engineering** **IE 8733 Decision Theory** **IE 8913 Engineering Economy II**		**3**
At least one course from the following: **IE 6113 Human Factors Engineering** **IE 6173 Occupational Safety Engineering** **IE 8153 Cognitive Engineering** **IE 8163 Macroergonomics** **IE 8143 Applied Ergonomic Methods**		**3**
Courses to be selected by the student along with the academic advisor and graduate program		**3**

committee		
IE 9000	Thesis in ISE	6
Total Hours		30

The thesis-option Master of Science in Industrial Engineering requires at least 24 credit hours of coursework above the baccalaureate degree. A thesis and an oral comprehensive examination in defense of the thesis are required for the thesis students.

Master of Science in Industrial and Systems Engineering with Systems Engineering Concentration (SYEG) – Non-Thesis

Prerequisites (foundational courses) are:

- **MA 1713, MA 1723: Calculus I and Calculus II**
- **IE 3913 Engineering Economy I**
- **IE 6613 Engineering Statistics I**
- **Computer Programming Proficiency**

IE 6753	Systems Engineering and Analysis	3
IE 8593	Model-based Systems Engineering	3
IE 6773	Systems Simulation I	3
IE 8583	Enterprise Systems Engineering	3
At least one course from the following: IE 6333 Production Control Systems I IE 6673 Reliability Engineering IE 8333 Production Control Systems II IE 8353 Manufacturing Systems Modeling IE 8623 Advanced Data Analytics for Complex Systems IE 8773 Systems Simulation II		3
At least one course from the following: IE 6533 Project Management IE 6573 Process Improvement Engineering IE 6543 Logistics Engineering IE 8733 Decision Theory IE 8913 Engineering Economy II		3
At least one course from the following: IE 6113 Human Factors Engineering IE 6173 Occupational Safety Engineering IE 8153 Cognitive Engineering IE 8163 Macroergonomics IE 8143 Applied Ergonomic Methods		3
Courses to be selected by the student along with the academic advisor and graduate program committee		9
Total Hours		30

A written and oral comprehensive final exam on the coursework. Total 12 hours for the M.S. non-thesis degree must be from 8000-level courses or above. The specific courses required depend upon the student's area of concentration. IE 9000 Research/Thesis does not apply to non-thesis students

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
See above section – Concentration Description and Curriculum Outline/hours are now combined in the Graduate Catalog; therefore, outline is not repeated here.		See above section – Concentration Description and Curriculum Outline/hours are now combined in the Graduate Catalog; therefore, outline is not repeated here.	

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF INDUSTRIAL & SYSTEMS ENGINEERING

Junfeng Ma, Ph.D.
ma@ise.msstate.edu

January 24, 2025

University Committee on Courses and Curricula
Mailstop: 9702
Mississippi State, MS 39762

Dear UCCC,

The Industrial & Systems Engineering (ISE) faculty and the Graduate Committee support the approval of offering the Systems Engineering (SYEG) MS Concentration program via on-campus and distance learning. All classes currently proposed to comprise the MS concentration program either have companion 6000 level sections or are 8000 courses that are approved/are submitted to UCCC for approval for campuses 1 and 5.

The proposed new concentration will meet the growing national and state needs for engineers with systems engineering skills and will keep our program in line with students' choices of degree. The ISE faculty voted unanimously to accept this new concentration into ISE curriculum offerings on September 20th, 2024, should it be approved by UCCC.

These approvals are evidenced by the minutes from the ISE September 2024 meeting and the signatures from our faculty members below.

junfeng ma Digitally signed by junfeng ma Date: 2025.01.24 14:38:07 -06'00'
Junfeng Ma, Ph.D.
Associate Professor
Graduate Coordinator
Graduate Committee Chair
Industrial and Systems Engineering

Mohammad Marufuzzaman	Junfeng Ma junfeng ma Digitally signed by junfeng ma Date: 2025.01.24 14:38:27 -06'00'
Jessica González Vargas Jessica M. Gonzalez-Vargas Digitally signed by Jessica M. Gonzalez-Vargas Date: 2025.01.24 16:08:23 -06'00'	Yingbin Hu Digitally signed by Yingbin Hu Date: 2025.01.24 19:37:40 -06'00'
Jenna Johnson Jenna Johnson Digitally signed by Jenna Johnson Date: 2025.01.25 09:53:28 -06'00'	Seunghan Lee Seunghan Lee Digitally signed by Seunghan Lee Date: 2025.01.25 11:18:35 -06'00'
Daniel Dunaway Daniel Dunaway Digitally signed by Daniel Dunaway Date: 2025.01.25 11:38:08 -06'00'	Adam Piper Adam Piper Digitally signed by Adam Piper Date: 2025.01.27 09:15:34 -06'00'

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF INDUSTRIAL & SYSTEMS ENGINEERING

Junfeng Ma, Ph.D.
ma@ise.msstate.edu

Holly Potts Holly Potts Digitally signed by Holly Potts Date: 2025.01.27 09:35:30 -06'00'

Brian Smith Brian K. Smith Digitally signed by Brian K. Smith Date: 2025.02.03 14:44:10 -06'00'

Lesley Strawderman Lesley Strawderman Digitally signed by Lesley Strawderman Date: 2025.02.03 16:43:16 -06'00'

Nazanin Tajik Nazanin Tajik Digitally signed by Nazanin Tajik Date: 2025.02.03 16:44:44 -06'00'

Wenmeng (Meg) Tian Wenmeng Tian Digitally signed by Wenmeng Tian Date: 2025.02.03 16:59:26 -06'00'

Haifeng Wang Haifeng Wang Digitally signed by Haifeng Wang Date: 2025.02.03 17:03:03 -06'00'

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 Forest Resources **Department:** Sustainable Bioproducts

Contact Person: Jeanie McNeel **Mail Stop:** 9820 **E-mail:** jam52.msstate.edu

Nature of Change: Modification **Date Initiated:** 05/01/2025

Current Degree (BS, MS, etc.): MS

Current Major: Sustainable Bioproducts

Current Concentration(s): n/a

Current Campus(es): ☑ Starkville ☐ Meridian ☐ Distance ☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): MS

Effective Date:

Semester Fall **Year** 2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: Sustainable Bioproducts

Proposed Concentration(s): n/a

Proposed Campus(es)

☑ Starkville
☐ Meridian
☐ Distance
☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

This degree modification is being requested to change the "required courses" to include:
SBP 8111 Research Seminar I as a part of the 12 required hours of 8000-level coursework.
SBP 8121 Research Seminar II as a part of the 12 required hours of 8000-level coursework.
SBP 8013 Advanced Wood Science as a part of the 12 required hours of 8000-level coursework (Exemption – SBP Curriculum Committee may waive the requirement if petitioned by the graduate advisor based on the student's previous graduate coursework).

Approved: **Date:**

Rubin Shmulsky Digitally signed by Rubin Shmulsky Date: 2025.04.28 16:54:07 -05'00' — 04/28/25

Department Head

Director of Academic Quality

Dr. Robert K. Grala Digitally signed by Dr. Robert K. Grala Date: 2025.04.30 10:47:07 -05'00' — 04/30/2025

Chair, College or School Curriculum Committee

L. Wes Burger Digitally signed by L. Wes Burger Date: 2025.04.30 10:57:24 -05'00' — 4/30/2025

Dean of College or School

Digitally signed by Andy D. Perkins Date: 2025.05.29 14:35:40 -05'00'

Chair, University Committee on Courses and Curricula

Russell Carr Digitally signed by Russell Carr Date: 2025.05.22 17:23:44 -05'00' — 5/22/25

Chair, Graduate Council (if applicable)

Chair, Deans Council — June 12th, 2025

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

GRADUATE DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing Graduate Degree. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Please include the course prefix, number, and title in both columns. Expand rows as needed.

CURRENT Degree Description		PROPOSED Degree Description	
Degree: Master of Science, Thesis Option Major: Sustainable Bioproducts, Campus 1 Concentrations: n/a		Degree: Master of Science, Thesis Option Major: Sustainable Bioproducts, Campus 1 Concentrations: n/a	
The Sustainable Bioproducts field is concerned with extending our knowledge of wood as a material and applying this knowledge to the manufacture of useful products. It requires knowledge of the chemical, physical, botanical, and engineering characteristics of wood and other biomaterials, and the application of these characteristics to production of solid and engineered wood products in related industries. The M.S. thesis-option program requires 24 hours of academic coursework, 6 hours of research/thesis credit, and a defense of the student's written thesis before his or her graduate committee. The M.S. non-thesis Campus 1 program requires 30 hours of academic coursework and a comprehensive examination. The M.S. non-thesis Campus 5 program also requires 30 hours of academic course work (24 hours of academic coursework, 3 hours of professional practices instruction, 3 hours of capstone/final project) and a comprehensive examination.			
n/a		n/a	
CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
College Required Courses 8000-level coursework	 12	College Required Courses 8000-level coursework Which must include: **SBP 8111 Research Seminar I** **SBP 8121 Research Seminar II** **SBP 8013 Adv Wood Science & Technology (exemption – SBP Curriculum Committee may waive the requirement if petitioned by the graduate advisor based on the student's previous graduate coursework)**	 12 1 hour 1 hour 3 hours
Major Required Courses SBP 8111 Research Seminar I SBP 8121 Research Seminar II SBP 8000 Research/Thesis Graduate-level electives SBP 6013 Wood Anatomy SBP 6023 Lignocellulosic Biomass Chem. SBP 6113 Adhesives and Composites SBP 6123 Lumber Manufacturing	 1 hour 1 hour 6 hours 10 hours	Major Required Courses **SBP 9000 Research in SBP** Graduate-level electives **(See Graduate Coordinator for approved list of electives)** *SBP 8013 Advanced Wood Science & Tech* Graduate-level courses from other MSU Departments as approved by the students' graduate committee (specified on SBP	 6 hours 12 hours

SBP 6133 Biorefinery Processes SBP 6153 Biomass Products Manufacturing SBP 6213 Deterioration and Preservation of Biomaterials SBP 6243 Sustainable Bioproducts SBP 6253 Quantitative Methods in SBP SBP 6263 Furniture Design and Fabrication SBP 6313 Bioproducts and the Environment SBP 6353 Forest Products Marketing SBP 8013 Advanced Wood Science & Tech SBP 8123 Advanced Lignocellulosic Chem. SBP 8133 Environ Issues in SBP SBP 8143 Standards for Testing Sustainable Materials SBP 8213 Advanced Wood Mechanics Graduate-level courses from other MSU Departments as approved by the students graduate committee (Program of Study) SBP 7000 Direct Individual Study (no more than 6 hours total; may be used to meet 8000-level course requirements)		Program of Study form) SBP 7000 Direct Individual Study (no more than 6 hours total; may be used to meet 8000-level course requirements)	
Concentration 1. Courses			
Concentration 2. Courses			
Total Hours	30	Total Hours	30

Sustainable Bioproducts Program Modification

Description and Justification

The Sustainable Bioproducts (SB) Master of Science (MS) Thesis Degree's last modification was approved by MSU and IHL in year 2020.

With the full implementation of Degree Works in Fall of 2024, SBP 8111 and SBP 8121 are NOT counted as a part of the 12 required hours of 8000-level coursework. This requested modification includes:

- As required courses, both SBP 8111 and SBP 8121 should be counted in the 12 required hours of 8000-level coursework.

In the Fall of 2023, the Society of Wood Science and Technology Accreditation Team conducted an on-site review of the SB Bachelors and MS programs. The Team recommended "that MSU submit documentation that all MS students receive a broad exposure to renewable materials (wood science fundamentals), for example through requiring SBP 8013 of all students." This requested modification includes:

- SBP 8013 be a required course (exemption – SBP Curriculum Committee may waive the requirement if petitioned by the graduate advisor based on the student's previous graduate coursework); and
- SBP 8013 should be counted in the 12 required hours of 8000-level coursework.

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF
SUSTAINABLE BIOPRODUCTS
P. O. Box 9820
Mississippi State, MS 39762
P. 662.325.2116
bioproducts.msstate.edu

Letter of Support for Modification of Existing Sustainable Bioproducts Master of Science Thesis Degree

Contact person: Jeanie McNeel, 662-325-2119, jam52@msstate.edu

Justification for request:

The Sustainable Bioproducts (SB) Master of Science (MS) Thesis Degree's last modification was approved by MSU and IHL in year 2020.

With the full implementation of Degree Works in Fall of 2024, SBP 8111 and SBP 8121 are NOT counted as a part of the 12 required hours of 8000-level coursework. This requested modification includes:

> As required courses, both SBP 8111 and SBP 8121 should be counted in the 12 required hours of 8000-level coursework.

In the Fall of 2023, the Society of Wood Science and Technology Accreditation Team conducted an on-site review of the SB Bachelors and MS programs. The Team recommended "that MSU submit documentation that all MS students receive a broad exposure to renewable materials (wood science fundamentals), for example through requiring SBP 8013 of all students." This requested modification includes:

> SBP 8013 be a required course (exemption – SBP Curriculum Committee may waive the requirement if petitioned by the graduate advisor based on the student's previous graduate coursework); and
> SBP 8013 should be counted in the 12 required hours of 8000-level coursework.

Effective Date: Fall 2025

Effect on other courses and programs: None

The undersigned Curriculum Committee members of SB are supportive of this modification of the existing SB Master of Science Thesis Degree.

Frank Owens Frank C. Owens Digitally signed by Frank C. Owens DN: cn=Frank C. Owens, o=Mississippi State University, ou=Dept. of Sustainable Bioproducts, email=fco7@msstate.edu, c=US Date: 2025.04.28 15:33:27 -05'00' Date: 4/28/2025

Beth Stokes C Elizabeth Stokes cn=C. Elizabeth Stokes, o=Mississippi State University, ou=Department of Sustainable Bioproducts, email=ces8@msstate.edu, c=US 2025.04.28 15:20:25 -05'00' Date: 4/28/25

Jason Street Digitally signed by Jason Street Date: 2025.04.28 15:42:58 -05'00' Date: 4/28/25

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 Forest Resources **Department:** Forestry

Contact Person: Courtney Siegert **Mail Stop:** 9681 **E-mail:** cms977@msstate.edu

Nature of Change: Modification **Date Initiated:** 9/25/2024

Current Degree (BS, MS, etc.): Bachelor of Science

Current Major: Natural Resource and Environmental Conservation

Current Concentration(s): Natural Resource Law and Administration, Natural Resource Technology, Resource Conserv

Current Campus(es): ☑ **Starkville** ☐ **Meridian** ☐ **Distance** ☐ **Gulf Coast***

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): No Change

Effective Date:

Semester Fall **Year** 2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: No Change

Proposed Concentration(s): No Change

Proposed Campus(es)

☑ Starkville
☐ Meridian
☐ Distance
☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

1) Changed concentration advisor info. 2) Removed Extra Science GR 1113 from General Education coursework and moved to Major Core Courses to reflect change in Gen Ed credit hours in AOP 12.08 and updated credit hour subtotals accordingly. Also added CH 1053 and CH 1223 as approved substitutions to align with community college offerings. 3) Added NREC 4733 Climate Change Resilience in Natural Resources to the list of Major Core Courses changing the credit hours of Major Core Classes from 51 to 54. 4) Removed 3 credit hours from Professional Electives to balance the change in #2. Note: NREC 4333 was approved as a major core course in Spring 2024 but the course proposal itself is undergoing final UCCC revisions and approval. 5) Updated footnote 1 for Professional Electives to demonstrate program coherence as required in AOP 12.08.

Approved:	Date:
Donald L. Grebner Department Head	09/25/2024
Director of Academic Quality	9/26/2024
Dr. Robert K. Grala Digitally signed by Dr. Robert K. Grala Date: 2024.11.04 08:48:51 -06'00' Chair, College or School Curriculum Committee	11/04/2024
Steve Bullard on Behalf of Wes Burger Digitally signed by Steve Bullard on Behalf of Wes Burger Date: 2024.11.13 07:41:58 -05'00' Dean of College or School	11/13/24
Digitally signed by Andy D. Perkins Date: 2025.05.29 14:35:51 -05'00' Chair, University Committee on Courses and Curricula	
Chair, Graduate Council (if applicable)	
Liam Ryan Chair, Deans Council	June 12th, 2025

DEGREE MODIFICATION OUTLINE FORM

All deleted courses and information are in *italics* and all new courses and information in **bold**.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Science Major: Natural Resources and Environmental Conservation Concentration: Natural Resource Law and Administration, Resource Conservation Science, Natural Resource Technology	Degree: Bachelor of Science Major: Natural Resources and Environmental Conservation Concentration: Natural Resource Law and Administration, Resource Conservation Science, Natural Resource Technology
Old degree description: The Objectives. The Natural Resource and Environmental Conservation major objectives are to prepare its graduates for professional careers by: 1) providing the broader general education fundamentals of written and oral communication; mathematics; biological, social, and physical sciences; and humanities which are critical to the development and advancement of well-qualified professionals; 2) providing both the relevant domains of knowledge and their application to the solution of real-world problems and achievement of defined objectives, including in-depth coverage of ecology and biology; measurement and evaluation of natural resource environmental components, properties, and functioning; management of ecosystems; and legal, regulatory, policy, and economic aspects of ecosystem administration and management; 3) establishing awareness of historical and current issues and policies affecting ecosystem management and conservation; and 4) providing a variety of educational experiences including lectures, discussion, simulations, computer applications, individual and group projects in laboratories and field experiences, and a capstone course teaching students to conduct environmental impact assessments. The purpose of these experiences is to ensure that graduates of the program can knowledgeably develop, apply, facilitate, and/or execute natural resource and environmental management plans that adequately address matters of ownership/public goals and objectives, ecosystem health and sustainability, and the legal and regulatory environment. Accreditation. Educational programs in the Natural Resource Law and Administration, Resource Conservation Science, and Natural Resource Technology concentrations lead to a professional degree in Natural Resource and Environmental Conservation at Mississippi State University and are accredited by the Society of American Foresters (SAF). The Major. The core curriculum of the Natural Resource and Environmental Conservation major is comprised of specifically selected and intentionally designed courses that provide students with a broad background in the science, technology, and social aspects of natural resource and environmental science. In addition to general education and major core requirements, students will complete one of three concentrations: Natural Resource Law and Administration, Resource Conservation Science, or Natural Resource	New degree description: The Objectives. The Natural Resource and Environmental Conservation major objectives are to prepare its graduates for professional careers by: 1) providing the broader general education fundamentals of written and oral communication; mathematics; biological, social, and physical sciences; and humanities which are critical to the development and advancement of well-qualified professionals; 2) providing both the relevant domains of knowledge and their application to the solution of real-world problems and achievement of defined objectives, including in-depth coverage of ecology and biology; measurement and evaluation of natural resource environmental components, properties, and functioning; management of ecosystems; and legal, regulatory, policy, and economic aspects of ecosystem administration and management; 3) establishing awareness of historical and current issues and policies affecting ecosystem management and conservation; and 4) providing a variety of educational experiences including lectures, discussion, simulations, computer applications, individual and group projects in laboratories and field experiences, and a capstone course teaching students to conduct environmental impact assessments. The purpose of these experiences is to ensure that graduates of the program can knowledgeably develop, apply, facilitate, and/or execute natural resource and environmental management plans that adequately address matters of ownership/public goals and objectives, ecosystem health and sustainability, and the legal and regulatory environment. Accreditation. Educational programs in the Natural Resource Law and Administration, Resource Conservation Science, and Natural Resource Technology concentrations lead to a professional degree in Natural Resource and Environmental Conservation at Mississippi State University and are accredited by the Society of American Foresters (SAF). The Major. The core curriculum of the Natural Resource and Environmental Conservation major is comprised of specifically selected and intentionally designed courses that provide students with a broad background in the science, technology, and social aspects of natural resource and environmental science. In addition to general education and major core requirements, students will complete one of three concentrations: Natural Resource Law and Administration, Resource Conservation Science, or Natural Resource

Technology. Transfer students. Transfer students are encouraged to enter the Natural Resource and Environmental Conservation major at MSU in the Spring semester of their sophomore year to complete their academic programs in the normal four-year period of study. Transfer students should be aware that course work taken elsewhere may not be accepted toward the degree. Only course work that is determined by the Department of Forestry to be equivalent to required course work will be accepted. In addition, no course work will be considered for acceptance unless a grade of C or better has been earned. Degree Requirements. In addition to General Education and College requirements, students must attain a minimum grade of C on the Natural Resource and Environmental Conservation Major Core courses taught within the CFR.	Technology. Transfer students. Transfer students are encouraged to enter the Natural Resource and Environmental Conservation major at MSU in the Spring semester of their sophomore year to complete their academic programs in the normal four-year period of study. Transfer students should be aware that course work taken elsewhere may not be accepted toward the degree. Only course work that is determined by the Department of Forestry to be equivalent to required course work will be accepted. In addition, no course work will be considered for acceptance unless a grade of C or better has been earned. Degree Requirements. In addition to General Education and College requirements, students must attain a minimum grade of C on the Natural Resource and Environmental Conservation Major Core courses taught within the CFR.
Old concentration description: <u>Natural Resource Law and Administration (NREC/NRLA)</u> Advisor: Dr. Edwin Sun, Thompson Hall, room 317 There are numerous laws, regulations, and policies affecting natural resource administration and management that have created a need for professionals with an understanding of the complex interactions between the science of managing natural resources and laws, regulations, policies, and processes involved in their utilization and protection. This Concentration will provide students with a background in the science of natural resource management as well as a foundation in the legal, regulatory, and administrative environment in which this management occurs. Students completing this program will be prepared for post-graduate studies in law, public policy administration, and a wide range of natural resource disciplines, as well as employment with private and public organizations and agencies. <u>Resource Conservation Science (NREC/RCS)</u> Advisor: Dr. Courtney Siegert, Thompson Hall, room *347* There is a need for expertise in resource conservation that relies on a science-based education and an understanding of effective applications of this knowledge to solve problems in natural resource settings. This Concentration promotes learning and skill sets in resource conservation and science that will meet this objective. Universities and employers are looking for natural resource professionals who have the necessary tools to be able to attend graduate school or become employed by private organizations, private industry, and state and federal agencies whose primary mission is environmental protection and resource conservation. This is particularly important since these organizations and agencies are under increasing demands	New concentration description: <u>Natural Resource Law and Administration (NREC/NRLA)</u> Advisor: Dr. Edwin Sun, Thompson Hall, room 317 There are numerous laws, regulations, and policies affecting natural resource administration and management that have created a need for professionals with an understanding of the complex interactions between the science of managing natural resources and laws, regulations, policies, and processes involved in their utilization and protection. This Concentration will provide students with a background in the science of natural resource management as well as a foundation in the legal, regulatory, and administrative environment in which this management occurs. Students completing this program will be prepared for post-graduate studies in law, public policy administration, and a wide range of natural resource disciplines, as well as employment with private and public organizations and agencies. <u>Resource Conservation Science (NREC/RCS)</u> Advisor: Dr. Courtney Siegert, Thompson Hall, room **369** There is a need for expertise in resource conservation that relies on a science-based education and an understanding of effective applications of this knowledge to solve problems in natural resource settings. This Concentration promotes learning and skill sets in resource conservation and science that will meet this objective. Universities and employers are looking for natural resource professionals who have the necessary tools to be able to attend graduate school or become employed by private organizations, private industry, and state and federal agencies whose primary mission is environmental protection and resource conservation. This is particularly important since these organizations and agencies are under increasing demands

to document and verify their activities in both protecting natural resources (i.e., aquatic and terrestrial) and assessing impacts on human, floral, and faunal populations relying on these environments. Natural Resource Technology (NREC/NRT) Advisor: *Dr. Yun Yang, Thompson Hall, room 349* Modern protocols for natural resource monitoring and management are highly dependent on utilization of spatial technologies such as remote sensing and geographic information systems (GIS). Spatial technologies and allied measurement and quantitative disciplines, combined with general knowledge needed for resource management, are essential in public- and private-sector natural resource professions. Students will also be amply prepared to continue with graduate studies in this area. This Concentration is specifically designed to provide students with the fundamental background to meet the rapidly growing need for professionals who can collect, manage, and manipulate complex geospatial and ancillary data used in natural resource management.	to document and verify their activities in both protecting natural resources (i.e., aquatic and terrestrial) and assessing impacts on human, floral, and faunal populations relying on these environments. Natural Resource Technology (NREC/NRT) Advisor: **Dr. Krishna Poudel, Thompson Hall, room 315** Modern protocols for natural resource monitoring and management are highly dependent on utilization of spatial technologies such as remote sensing and geographic information systems (GIS). Spatial technologies and allied measurement and quantitative disciplines, combined with general knowledge needed for resource management, are essential in public- and private-sector natural resource professions. Students will also be amply prepared to continue with graduate studies in this area. This Concentration is specifically designed to provide students with the fundamental background to meet the rapidly growing need for professionals who can collect, manage, and manipulate complex geospatial and ancillary data used in natural resource management.

CURRENT CURRICULUM OUTLINE	Required Hours	PROPOSED CURRICULUM OUTLINE	Required Hours
English: EN 1103 English Composition I Or EN 1104 Expanded English Composition I EN 1113 English Composition II Or EN 1173 Accelerated Composition II	6	English: EN 1103 English Composition I Or EN 1104 Expanded English Composition I EN 1113 English Composition II Or EN 1173 Accelerated Composition II	6
Fine Arts (General Education): LA 1803 Landscape Architecture	3	Fine Arts (General Education): LA 1803 Landscape Architecture	3
Natural Sciences (2 labs required from Gen Ed): BIO 1134 Biology I BIO 1144 Biology II	8	Natural Sciences (2 labs required from Gen Ed): BIO 1134 Biology I BIO 1144 Biology II	8
Extra Science: *GR 1113 Physical Geography*	*3*		
Quantitative Reasoning (General Education): ST 2113 Intro to Statistics or ST 3123 Intro to Statistical Inference	3	Quantitative Reasoning (General Education): ST 2113 Intro to Statistics or ST 3123 Intro to Statistical Inference	3
Humanities (General Education): PHI 1123 Introduction to Ethics Any General Education Humanities course (3)	6	Humanities (General Education): PHI 1123 Introduction to Ethics Any General Education Humanities course (3)	6

Social/Behavioral Sciences (Gen Ed): AEC 2713 Intro to Food and Resource Econ Or EC 2113 Principles of Macroeconomics Or EC 2123 Principles of Microeconomics SO 1003 Introduction to Sociology	6	Social/Behavioral Sciences (Gen Ed): AEC 2713 Intro to Food and Resource Econ Or EC 2113 Principles of Macroeconomics Or EC 2123 Principles of Microeconomics SO 1003 Introduction to Sociology	6
Subtotal	*35*	Subtotal	**32**
Major Core Courses:		Major Core Courses:	
Chemistry-See Concentrations for requirements		Chemistry-See Concentrations for requirements	
NREC 1102 Survey of Natural Resource Management	2	NREC 1102 Survey of Natural Resource Management	2
FO 2113 Dendrology	3	FO 2113 Dendrology	3
FO 3103 Computer Applications for Forest Resources	3	FO 3103 Computer Applications for Forest Resources	3
NREC 3113 Forest Rec Mgmt	3	NREC 3113 Forest Rec Mgmt	3
FO 4213 Forest Biometrics	3	FO 4213 Forest Biometrics	3
NREC 4313 Spatial Tech. in Nat. Res.	3	NREC 4313 Spatial Tech. in Nat. Res.	3
FO 4343 For Admin and Organization	3	FO 4343 For Admin and Organization	3
NREC 4353 Natural Resource Law	3	NREC 4353 Natural Resource Law	3
NREC 4413 Natural Resource Policy	3	NREC 4413 Natural Resource Policy	3
		GR 1113 Physical Geography OR CH 1053 Survey of Chemistry II OR CH 1223 Chemistry II	**3**
GR 2313 Maps and Remote Sensing	3	GR 2313 Maps and Remote Sensing	3
NREC 3213 Environmental Measurements	3	NREC 3213 Environmental Measurements	3
NREC 4423 Environmental Assessments	3	NREC 4423 Environmental Assessments	3
NREC 4333 Ecological Risk Assessment and Chemical Regulation	3	NREC 4333 Ecological Risk Assessment and Chemical Regulation	3
		NREC 4733 Climate Change Resilience in Natural Resources	**3**
PSS 3303 Soils	3	PSS 3303 Soils	3
PSS 3301 Soils Lab	1	PSS 3301 Soils Lab	1
Ecology Elective (3)[1]	3	Ecology Elective (3)[1]	3
Oral Communication: CO 1003 Fund. of Public Speaking OR CO 1013 Introduction to Communication	3	Oral Communication: CO 1003 Fund. of Public Speaking OR CO 1013 Introduction to Communication	3
Writing Requirement:	3	Writing Requirement:	3

Technical Writing Elective (3)[1]		Technical Writing Elective (3)[1]	
Subtotal [1]Electives are selected from the list of electives approved by the Department of Forestry faculty.	*51*	Subtotal [1]Electives are selected from the list of electives approved by the Department of Forestry faculty.	**57**
Concentration Courses: Courses to be taken in addition to NREC major core curriculum include:		Concentration Courses: Courses to be taken in addition to NREC major core curriculum include:	
Natural Resource Law and Administration (NREC/NRLA) Advisor: Dr. Edwin Sun, Thompson Hall, room 317		Natural Resource Law and Administration (NREC/NRLA) Advisor: Dr. Edwin Sun, Thompson Hall, room 317	
CH 1043 Survey of Chemistry I Or CH 1213 Chemistry I	3	CH 1043 Survey of Chemistry I Or CH 1213 Chemistry I	3
PHI 1113 Introduction to Logic	3	PHI 1113 Introduction to Logic	3
BL 2413 Legal Environment of Business	3	BL 2413 Legal Environment of Business	3
PS 3063 Constitutional Powers	3	PS 3063 Constitutional Powers	3
Professional Electives[1]	*18*	Professional Electives[1]	**15**
Free Electives	8	Free Electives	8
Subtotal Curriculum Total *[1]Electives are selected from the list of electives approved by the Department of Forestry faculty.*	*38* 124	Subtotal Curriculum Total [1]Professional electives are selected from the list of electives approved by the Department of Forestry faculty. **Students make selections in consultation with their advisor to align electives with the student's interest and career goals.**	**35** 124
Natural Resource Technology (NREC/NRT) Advisor: *Dr. Yun Yang, Thompson Hall, room 349*		Natural Resource Technology (NREC/NRT) Advisor: **Dr. Krishna Poudel, Thompson Hall, room 315**	
MA 1323 Trigonometry	3	MA 1323 Trigonometry	3
CH 1043 Survey of Chemistry I Or CH 1213 Chemistry I	3	CH 1043 Survey of Chemistry I Or CH 1213 Chemistry I	3
FO 2213 Forest Measurements	3	FO 2213 Forest Measurements	3

FO 4453 Remote Sensing Applications	3	FO 4453 Remote Sensing Applications	3
NREC 4473 GIS Nat Res Mgmt	3	NREC 4473 GIS Nat Res Mgmt	3
Professional Electives[1]	*18*	Professional Electives[1]	**15**
Free Electives	5	Free Electives	5
Subtotal Curriculum Total *[1]Electives are selected from the list of electives approved by the Department of Forestry faculty.*	*38* 124	Subtotal Curriculum Total [1]Professional electives are selected from the list of electives approved by the Department of Forestry faculty. **Students make selections in consultation with their advisor to align electives with the student's interest and career goals.**	**35** 124
Resource Conservation Science (NREC/RCS) Advisor: Dr. Courtney Siegert, Thompson Hall, room *347*		Resource Conservation Science (NREC/RCS) Advisor: Dr. Courtney Siegert, Thompson Hall, room **369**	
MA 1613 Calc for Bus and Life Sci OR MA 1713 Calculus I	3	MA 1613 Calc for Bus and Life Sci OR MA 1713 Calculus I	3
CH 1211 Investigations in Chemistry I	1	CH 1211 Investigations in Chemistry I	1
CH 1213 Chemistry I	3	CH 1213 Chemistry I	3
CH 1221 Investigations in Chemistry II	1	CH 1221 Investigations in Chemistry II	1
CH 1223 Chemistry II	3	CH 1223 Chemistry II	3
NREC 4463 Forest Hydro & Watershed Mgmt	3	NREC 4463 Forest Hydro & Watershed Mgmt	3
FO 4483 Forest Soils	3	FO 4483 Forest Soils	3
Professional Electives[1]	*18*	Professional Electives[1]	**15**
Free Electives	6	Free Electives	6
Subtotal Curriculum Total *[1]Electives are selected from the list of electives approved by the Department of Forestry faculty.*	*38* 124	Subtotal Curriculum Total [1]Professional electives are selected from the list of electives approved by the Department of Forestry faculty. **Students make selections in consultation with their advisor to align electives with the student's interest and career goals.**	**35** 124

JUSTIFICATION AND STUDENT LEARNING OUTCOMES

There is currently higher demand for natural resource professionals than there are graduates from natural resource management programs. As such, building a strong program that is focused on natural resource management, including the biophysical, socio-political, and technological interdisciplinary components, will set us apart from peer

institutions. The addition of NREC 4733 Climate Change Resilience in Natural Resources to the major core courses will help us achieve this goal. This course will expose students to tools and strategies for building resilient natural resource systems, help them develop assessment skills relative to climate change vulnerabilities and adaptive measures, and develop critical thinking skills relative to climate change problems and solutions. Students will learn to apply the processes outlined by the United States Global Change Research Program for developing climate adaptation and resilience plans, and have the opportunity to develop a plan for a system of their choice. The course is designed for Natural Resource and Environmental Conservation (NREC) majors, and has relevance to Forestry majors and Wildlife, Fisheries and Aquiculture majors. The course will stay current with emerging ideas, solutions, and scientific advances as they emerge, and students will have opportunities to openly discuss current events and emerging ideas.

Will this program change meet local, state, regional, and national educational and cultural goals? **This program change is in line with SAF accreditation standards for Natural Resource Management accreditation, under which the NREC program is currently accredited.**

1. Will this program change result in duplication in the System? **This program change will not result in a duplication of the system.**
2. Will this program change/advance student diversity within the discipline? **No, not directly. However, expanding the course offerings in the NREC major, which was established in 2014, will garner broader appeal to prospective students.**
3. Will this program change result in an increase in the potential placement of graduates in MS, the Southeast, and the US? **It is anticipated that this change will make our graduates more prepared to enter professional natural resource management careers with a stronger foundation in core natural resource management issues.**
4. Will this program change result in an increase in the potential salaries of graduates in MS, the Southeast, and the US? **For the reasons stated above in #3, it is anticipated that our students will be more qualified in their professional fields of natural resource management and therefore garner higher starting salaries. The ecological risk assessment process is utilized heavily by federal and state agencies in environmental decision-making and risk mitigation, and few students are trained in the process before entering the workforce. This training will therefore help them stand out for placement in federal or state agency environmental careers.**

EFFECTIVE DATE
8/15/2025

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF FORESTRY
P. O. Box 9681
Mississippi State, MS 39762
P. 662.325.2949
cfr.msstate.edu

MEMO TO: Dr. Andy D. Perkins, Chair, University Committee on Courses and Curricula

FROM: Dr. Robert K. Grala, Chair, College of Forestry Curriculum Committee

DATE: October 31, 2024

SUBJECT: Natural Resource and Environmental Conservation (NREC) Program Modification

This memo documents that the College of Forestry Curriculum Committee has reviewed and approved the proposed program modification to the NREC major. The committee believes that the proposed modification helps address an increasing job demand in the area of natural resource management and positions NREC graduates to be more competitive in the evolving natural resource job market. The proposed modifications streamline coursework in the NREC curriculum, expose students to emerging natural resource management issues, and equip them with critical skills necessary to develop effective management solutions.

College of Forestry Curriculum Committee

NAME:	APPROVE:	DISAPPROVE:
Dr. Christopher R. Ayers	Christopher R. Ayers Digitally signed by Christopher R. Ayers Date: 2024.10.31 10:15:22 -05'00'	
Dr. Leslie M. Burger	Leslie Burger Digitally signed by Leslie Burger Date: 2024.10.31 12:20:47 -05'00'	
Dr. Robert K. Grala	Dr. Robert K. Grala Digitally signed by Dr. Robert K. Grala Date: 2024.10.31 10:11:14 -05'00'	
Ms. Lanna Miller	Lanna Miller 2024.11.01 16:42:25 -05'00'	
Dr. Frank C. Owens	Frank C. Owens Digitally signed by Frank C. Owens DN: cn=Frank C. Owens, o=Mississippi State University, ou=Dept. of Sustainable Bioproducts, email="fco7@msstate.edu", c=US Date: 2024.10.31 16:29:31 -05'00'	
Dr. Carrlet E. Stokes	C. Elizabeth Stokes Digitally signed by C. Elizabeth Stokes DN: cn=C. Elizabeth Stokes, o=Mississippi State University, ou=Department of Sustainable Bioproducts, emailfwcs1@msstate.edu, c=US Date: 2024.11.01 09:37:53 -05'00'	
Dr. Heidi J. Renninger	Heidi Renninger Digitally signed by Heidi Renninger Date: 2024.11.01 13:21:53 -05'00'	

MISSISSIPPI STATE UNIVERSITY.

DEPARTMENT OF FORESTRY
P. O. Box 9681
Mississippi State, MS 39762
P. 662.325.2949
cfr.msstate.edu

MEMO TO: Dr. Andy Perkins, Chair
University Committee on Courses and Curricula (UCCC)

FROM: Dr. Courtney Siegert, Chair, Department of Forestry Undergraduate Curriculum Committee (UGCC)

DATE: September 20, 2024

SUBJECT: NREC New Course and Curriculum Modification

As per UCCC policy, I am providing documentation that the Department of Forestry's UGCC has reviewed and approved the following items:

1. New Course Proposal - NREC 4733 Climate Change Resilience in Natural Resources
2. NREC Curriculum Modification to add NREC 4733 as a Major Core Course.

These changes have been reviewed by the UGCC. UGCC members have indicated below their approval (or disapproval) of these items. In addition, the faculty in the Department of Forestry approved these changes by majority vote on September 19, 2024.

	APPROVE	DISAPPROVE
Christine Fortuin	Christine Fortuin	
Robert Grala	Dr. Robert K. Grala Digitally signed by Dr. Robert K. Grala Date: 2024.09.24 12:45:05 -05'00'	
Eric McConnell	Eric McConnell Digitally signed by Eric McConnell Date: 2024.09.23 14:45:46 -05'00'	
Adam Polinko	Adam Polinko Digitally signed by Adam Polinko Date: 2024.09.25 08:27:42 -05'00'	
Krishna Poudel	Krishna P. Poudel Digitally signed by Krishna P. Poudel Date: 2024.09.20 14:15:49 -05'00'	
Ashley Schulz	Ashley Schulz Digitally signed by Ashley Schulz Date: 2024.09.23 10:09:57 -05'00'	
Courtney Siegert	Courtney Siegert Digitally signed by Courtney Siegert Date: 2024.09.20 14:22:22 -05'00'	
Changyou Sun	Digitally signed by Changyou Sun Date: 2024.09.24 16:09:36 -05'00'	

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: Modification **Date Initiated:** 04/15/2025

Current Degree (BS, MS, etc.): Bachelor of Science

Current Major: Data Science

Current Concentration(s): 10

Current Campus(es): ☑ **Starkville** ☐ **Meridian** ☐ **Distance** ☐ **Gulf Coast***

*Gulf Coast campus for Bagley College of Engineering only

New Degree (BS, MS, etc.): _____

Effective Date:

Semester	Year
Fall	2025

**Any new program or modification desiring a starting semester other than fall must include a justification

Proposed Major: _____

Proposed Concentration(s): _____

Proposed Campus(es)

☑ Starkville
☐ Meridian
☐ Distance
☐ Gulf Coast*

*Gulf Coast campus for Bagley College of Engineering only

Summary of Proposed Changes:

This proposal has two parts. (1) Update of existing Marketing and Supply Chain Analytics concentration (2) Creation of new Biomedical Informatics concentration.

Approved: **Date:**

Mimmo Parisi — Digitally signed by Mimmo Parisi Date: 2025.04.22 16:00:10 -05'00'

Department Head

Dana Pomykal Franz, PhD — Digitally signed by Dana Pomykal Franz, PhD Date: 2025.04.22 16:13:51 -05'00'

Director of Academic Quality

Kimberly R. Hall — Digitally signed by Kimberly R Hall Date: 2025.04.23 09:48:28 -05'00'

Chair, College or School Curriculum Committee

Jamie Dyer — Digitally signed by Jamie Dyer Date: 2025.04.23 14:11:40 -05'00'

Dean of College or School

Digitally signed by Andy D. Perkins Date: 2025.05.29 14:36:10 -05'00'

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (If applicable)

Peter Liam Ryan — June 12th, 2025

Chair, Deans Council

FOR OIRE USE ONLY

- ☐ Substantive Change to SACSCOC
- ☐ Notification to SACSCOC
- ☐ No significant departure

OIRE Representative Initials _____

DEGREE MODIFICATION OUTLINE FORM

Use the chart below to make modifications to an existing undergraduate degree outline. If any General Education (Core) course is acceptable in the category, please indicate by saying "any Gen Ed course". There is no need to type in the whole list. All deleted courses and information should be shown in *italics* and all new courses and information in **bold**. Include the course prefix, number, and title in both columns. Expand this table as needed.

CURRENT Degree Description	PROPOSED Degree Description
Degree: Bachelor of Science Major: Data Science Concentration: 1. Visualization and Visual Analytics for Built Environment 2. Computational Agriculture and Natural Resources 3. Business Information Systems 4. Marketing and Supply Chain Analysis 5. Social Data Analytics 6. Psychoinformatics 7. Statistical Modeling 8. Computational Intelligence 9. Geoinformatics 10. Sports Science	Degree: Bachelor of Science Major: Data Science Concentration: 1. Visualization and Visual Analytics for Built Environment 2. Computational Agriculture and Natural Resources 3. Business Information Systems **4. Marketing and Supply Chain Analysis** 5. Social Data Analytics 6. Psychoinformatics 7. Statistical Modeling 8. Computational Intelligence 9. Geoinformatics 10. Sports Science **11. Biomedical Informatics**
The Bachelor of Science in Data Science is an interdisciplinary program that draws upon disciplines from multiple colleges. It is a 123-hour inter-college program designed to include three general areas of coursework: general education, program core, and applications of the data science fundamentals in specific body of knowledge such as geoinformatics, computational intelligence and cybersecurity, marketing, management information systems, statistical modeling, social science analytics, architectural design and built environment, and smart agriculture. The overall curriculum is designed to provide students with an ideal educational experience necessary to become effective professional data science experts. Under the proposed undergraduate curriculum, general education coursework will help data science students develop intellectual curiosity, critical thinking, and ethical and aesthetic awareness. The coursework for the core program will provide students with the opportunity to build a strong foundation in the key fields of data science that include computer science, mathematics and statistics, management information systems, communication, management / leadership, design, and ethics. The course sequences for several distinct areas of academic concentration will provide students with the opportunity to become data science experts in a specific area.	The Bachelor of Science in Data Science is an interdisciplinary program that draws upon disciplines from multiple colleges. It is a 123-hour inter-college program designed to include three general areas of coursework: general education, program core, and applications of the data science fundamentals in specific body of knowledge such as geoinformatics, computational intelligence and cybersecurity, marketing, management information systems, statistical modeling, social science analytics, architectural design and built environment, and smart agriculture. The overall curriculum is designed to provide students with an ideal educational experience necessary to become effective professional data science experts. Under the proposed undergraduate curriculum, general education coursework will help data science students develop intellectual curiosity, critical thinking, and ethical and aesthetic awareness. The coursework for the core program will provide students with the opportunity to build a strong foundation in the key fields of data science that include computer science, mathematics and statistics, management information systems, communication, management / leadership, design, and ethics. The course sequences for several distinct areas of academic concentration will provide students with the opportunity to become data science experts in a specific area.

CURRENT CURRICULUM OUTLINE	Required Hours	**PROPOSED CURRICULUM OUTLINE**	Required Hours
English (General Education) EN 1103 English Comp I or EN 1104 EN 1113 English Comp II or EN 1173	6	English (General Education) EN 1103 English Comp I or EN 1104 EN 1113 English Comp II or EN 1173	6
Fine Arts (General Education):	3	Fine Arts (General Education):	3

Any Gen Ed Course		Any Gen Ed Course	
Natural Sciences 2 Lab Based Sciences required by Gen Ed	6	Natural Sciences 2 Lab Based Sciences required by Gen Ed	6
Math (General Education): MA 1713 Calculus I MA 1723 Calculus II MA 2733 Calculus III	9	Math (General Education): MA 1713 Calculus I MA 1723 Calculus II MA 2733 Calculus III	9
Humanities (General Education): PHI 1113 Intro to Logic (required) Any Gen Ed Course	6	Humanities (General Education): PHI 1113 Intro to Logic (required) Any Gen Ed Course	6
Social/Behavioral Sciences (Gen Ed): DSCI 2013 Data Science Literacy (required) Any Gen Ed Course	6	Social/Behavioral Sciences (Gen Ed): DSCI 2013 Data Science Literacy (required) Any Gen Ed Course	6
Oral Communication CO 3213 Small Group Communication	3	Oral Communication CO 3213 Small Group Communication	3
Technical Writing CO 3223 Comm & Media Studies Research Methods	3	Technical Writing CO 3223 Comm & Media Studies Research Methods	3
Major Core: MA 3123 Statistical Inference MA 3113 Introduction to Linear Algebra MA/ST 4523 Introduction to Probability CSE 1284 Introduction to Computer Programming CSE 1384 Intermediate Computer Programming CSE 2813 Discrete Structures CSE 2383 Data Structures and Analysis of Algorithms CSE 4503 Database Management Systems CSE 4633 Artificial Intelligence CSE 3763 Legal and Ethical Issues in Computing BIS 3233 Management Information Systems DSCI 3013 Fundamentals of Data Acquisition DSCI 2012 Data Science Lab - Data Wrangling DSCI 3012 Data Science Lab – Description, Analysis, and Inference DSCI 3022 Data Science Lab – Data Visualization DSCI 3032 Data Science Lab - Artificial Intelligence DSCI 2022 Data Science Lab - Cloud, Quantum, and High-Performance Computing	51	Major Core: MA 3123 Statistical Inference MA 3113 Introduction to Linear Algebra MA/ST 4523 Introduction to Probability CSE 1284 Introduction to Computer Programming CSE 1384 Intermediate Computer Programming CSE 2813 Discrete Structures CSE 2383 Data Structures and Analysis of Algorithms CSE 4503 Database Management Systems CSE 4633 Artificial Intelligence CSE 3763 Legal and Ethical Issues in Computing BIS 3233 Management Information Systems DSCI 3013 Fundamentals of Data Acquisition DSCI 2012 Data Science Lab - Data Wrangling DSCI 3012 Data Science Lab – Description, Analysis, and Inference DSCI 3022 Data Science Lab – Data Visualization DSCI 3032 Data Science Lab - Artificial Intelligence DSCI 2022 Data Science Lab - Cloud, Quantum, and High-Performance Computing	51

DSCI 4013 Data Visualization		DSCI 4013 Data Visualization	
Concentration Courses: The coursework is reported below. Each area of concentration combines fundamental, field-specific content, concentration electives designed to apply data science to the field, and a six-hour practicum/capstone project. On their third year, students will have the opportunity to select a concentration area from the several available areas offered by the different colleges on campus. **Visualization and Visual Analytics for Built Environment** The Visualization and Visual Analytics for Built Environment concentration focuses on visualization techniques and smart analytics to leverage data across the full project lifecycle, from design development, construction, and operations, to increase efficiency and enhance productivity. The design and construction process for the built environment is rapidly transforming, driven by two primary forces. Architects and designers are increasingly adopting Building Information Modeling (BIM) techniques that allow more sustainable, accurate, and efficient design, planning, evaluation, and construction of the built environment. Rapid integration of IoT sensors and intelligent building systems that track every aspect of building performance complements the digital revolution in the design process. However, the data visualization and analytics efforts have significantly lagged behind data capture efforts by integrating IoT sensors in smart buildings. This gap presents an opportunity for a new class of professionals at the intersection of data science and design visualization. The industry needs new professionals who can bring together computational statistics and data analytic skills with visualization skills to inform the development of new workflows and strategies for the design and construction industries. Courses in this concentration train aim to fill this gap by preparing students in three complementary areas: • Provide a foundation in basic principles	30	Concentration Courses: The coursework is reported below. Each area of concentration combines fundamental, field-specific content, concentration electives designed to apply data science to the field, and a six-hour practicum/capstone project. On their third year, students will have the opportunity to select a concentration area from the several available areas offered by the different colleges on campus. **Visualization and Visual Analytics for Built Environment** The Visualization and Visual Analytics for Built Environment concentration focuses on visualization techniques and smart analytics to leverage data across the full project lifecycle, from design development, construction, and operations, to increase efficiency and enhance productivity. The design and construction process for the built environment is rapidly transforming, driven by two primary forces. Architects and designers are increasingly adopting Building Information Modeling (BIM) techniques that allow more sustainable, accurate, and efficient design, planning, evaluation, and construction of the built environment. Rapid integration of IoT sensors and intelligent building systems that track every aspect of building performance complements the digital revolution in the design process. However, the data visualization and analytics efforts have significantly lagged behind data capture efforts by integrating IoT sensors in smart buildings. This gap presents an opportunity for a new class of professionals at the intersection of data science and design visualization. The industry needs new professionals who can bring together computational statistics and data analytic skills with visualization skills to inform the development of new workflows and strategies for the design and construction industries. Courses in this concentration train aim to fill this gap by preparing students in three complementary areas: • Provide a foundation in basic principles of design and digital representation drawing	30

of design and digital representation drawing from traditional art and design disciplines • Develop advanced design visualization skills using state-of-the-art computer-aided design (CAD) and building information modeling (BIM) software tools used in the architecture, engineering, and construction industries • Develop an understanding of advanced building systems and building performance simulations and evaluations. The fundamental discipline courses in this concentration thus introduce visualization and analytics techniques that support the entire building project lifecycle from design development, construction, and operation to increase efficiency and enhance performance. The two data science capstone projects for this concentration provide opportunities to engage in real-world problem-based learning by bringing together foundational data science skills with visualization and analytic skills developed as part of the concentration. <u>Complete EIGHT 3-credit courses out of the following TEN:</u> -ART 1123 Design I (2D) -ART 2803 Intro to Comp. Art -ART 2813 Intermediate Computing for Design -ART 4813 Multimedia I -BCS 2313 Virtual Design & Construction -ID 3603 Digital Design for Interiors -ID 3363 3D CAD Modeling -ARC 2713 Passive Bldg. Systems -ARC 3723 Active Bldg. Systems -ARC 4633 Architecture and Virtual Spaces <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science **Computational Agriculture and Natural Resources** The Computational Agriculture and Natural Resources (CANR) concentration trains students interested in data-driven		from traditional art and design disciplines • Develop advanced design visualization skills using state-of-the-art computer-aided design (CAD) and building information modeling (BIM) software tools used in the architecture, engineering, and construction industries • Develop an understanding of advanced building systems and building performance simulations and evaluations. The fundamental discipline courses in this concentration thus introduce visualization and analytics techniques that support the entire building project lifecycle from design development, construction, and operation to increase efficiency and enhance performance. The two data science capstone projects for this concentration provide opportunities to engage in real-world problem-based learning by bringing together foundational data science skills with visualization and analytic skills developed as part of the concentration. <u>Complete EIGHT 3-credit courses out of the following TEN:</u> -ART 1123 Design I (2D) -ART 2803 Intro to Comp. Art -ART 2813 Intermediate Computing for Design -ART 4813 Multimedia I -BCS 2313 Virtual Design & Construction -ID 3603 Digital Design for Interiors -ID 3363 3D CAD Modeling -ARC 2713 Passive Bldg. Systems -ARC 3723 Active Bldg. Systems -ARC 4633 Architecture and Virtual Spaces <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science **Computational Agriculture and Natural Resources** The Computational Agriculture and Natural Resources (CANR) concentration trains students interested in data-driven careers in	

careers in agriculture and natural resources through subject matter and applied data science coursework. Students who complete the CANR concentration will be equipped for careers as data scientists in agricultural production, agricultural technology, agricultural finance, natural resource management, wildlife and fisheries science, plant science, and other related fields. <u>Choose 1 Course from the Following:</u> -AEC 2713 Introduction to Food and Resource Economics -ABE 1863 Engineering Technology in Agriculture -BCH 4013 Principles of Biochemistry -PSS 1313 Plant Science -ADS 1113 Animal Science <u>Choose 1 Course from the Following:</u> -SBP 1103 Introduction to Sustainable Bioproducts -WFA 3133 Applied Ecology -FO 4123 Forest Ecology <u>Choose 6 Credit Hours from the Following:</u> CALS: -EC 2113 Principles of Macroeconomics -EC 3123 Intermediate Microeconomics -AEC 2223 Introduction to Sustainability Economics -AEC 3133 Introductory Agribusiness Management -AEC 3233 Introduction to Environmental Economics and Policy -AEC 4123 Financial and Commodity Futures Marketing -ABE 2173 Principles of Agricultural and Off-Road Machines -ABE 2543 Precision Agriculture I -ABE 4543 Precision Agriculture II -BCH 3102 Essential Biochemical Concepts and Analysis -BCH 4414 Protein Methods -ADS 3013 Anatomy and Physiology -ADS 3313 Introduction to Meat Science CFR: -SBP 2012 Intro to Bioproducts Industries -SBP 2123 Materials and Processing of Structure Bioproducts -WFA 4313 Fisheries Management -WFA 4613 Landscape Ecology		agriculture and natural resources through subject matter and applied data science coursework. Students who complete the CANR concentration will be equipped for careers as data scientists in agricultural production, agricultural technology, agricultural finance, natural resource management, wildlife and fisheries science, plant science, and other related fields. <u>Choose 1 Course from the Following:</u> -AEC 2713 Introduction to Food and Resource Economics -ABE 1863 Engineering Technology in Agriculture -BCH 4013 Principles of Biochemistry -PSS 1313 Plant Science -ADS 1113 Animal Science <u>Choose 1 Course from the Following:</u> -SBP 1103 Introduction to Sustainable Bioproducts -WFA 3133 Applied Ecology -FO 4123 Forest Ecology <u>Choose 6 Credit Hours from the Following:</u> CALS: -EC 2113 Principles of Macroeconomics -EC 3123 Intermediate Microeconomics -AEC 2223 Introduction to Sustainability Economics -AEC 3133 Introductory Agribusiness Management -AEC 3233 Introduction to Environmental Economics and Policy -AEC 4123 Financial and Commodity Futures Marketing -ABE 2173 Principles of Agricultural and Off-Road Machines -ABE 2543 Precision Agriculture I -ABE 4543 Precision Agriculture II -BCH 3102 Essential Biochemical Concepts and Analysis -BCH 4414 Protein Methods -ADS 3013 Anatomy and Physiology -ADS 3313 Introduction to Meat Science CFR: -SBP 2012 Intro to Bioproducts Industries -SBP 2123 Materials and Processing of Structure Bioproducts -WFA 4313 Fisheries Management -WFA 4613 Landscape Ecology -FO 2213 Forest Measurements	

-FO 2213 Forest Measurements -FO 2443 Essentials of Biotechnology -FO 4113 Forest Resource Economics -FO 4123 Forest Ecology <u>Choose 12 Credit Hours from the Following:</u> CALS: -AEC 4133 Analysis of Food Markets and Prices -AEC 4223 Applied Quantitative Analysis in Agricultural Economics -AEC 4363 Economics of Precision Agriculture -AEC 4413 Public Problems of Agriculture -AEC 4733 Econometric Analysis in Agricultural Economics -ABE 2873 Land Surveying -ABE 3513 The Global Positional System and Geographic Information Systems in Agriculture and Engineering -ABE 4163 Machine Management Agro-Ecosystems -ABE 4263 Soil and Water Management -ABE 4463 Introduction to Imaging in Biological Systems -ABE 4483 Introduction to Remote Sensing Technologies -BCH 4803 Integrative Protein Evolution -PSS 4483 Introduction to Remote Sensing Technologies -ADS 4523 Internet Based Management in Livestock Industries CFR: -SBP 4013 Wood Anatomy -SBP 4253 Quantitative Methods in SBP -WFA 4123 Wildlife and Fisheries Biometrics -WFA 4243 Wildlife Techniques -WFA 4253 Application of Spatial Technologies to Wildlife Fisheries Management -FO 3015 Forest Description and Analysis -FO 4213 Forest Biometrics -FO 4313 Spatial Techniques in Natural Resources Management -FO 4453 Remote Sensing Applications -FO 4473 GIS for Natural Resource Management <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for		-FO 2443 Essentials of Biotechnology -FO 4113 Forest Resource Economics -FO 4123 Forest Ecology <u>Choose 12 Credit Hours from the Following:</u> CALS: -AEC 4133 Analysis of Food Markets and Prices -AEC 4223 Applied Quantitative Analysis in Agricultural Economics -AEC 4363 Economics of Precision Agriculture -AEC 4413 Public Problems of Agriculture -AEC 4733 Econometric Analysis in Agricultural Economics -ABE 2873 Land Surveying -ABE 3513 The Global Positional System and Geographic Information Systems in Agriculture and Engineering -ABE 4163 Machine Management Agro-Ecosystems -ABE 4263 Soil and Water Management -ABE 4463 Introduction to Imaging in Biological Systems -ABE 4483 Introduction to Remote Sensing Technologies -BCH 4803 Integrative Protein Evolution -PSS 4483 Introduction to Remote Sensing Technologies -ADS 4523 Internet Based Management in Livestock Industries CFR: -SBP 4013 Wood Anatomy -SBP 4253 Quantitative Methods in SBP -WFA 4123 Wildlife and Fisheries Biometrics -WFA 4243 Wildlife Techniques -WFA 4253 Application of Spatial Technologies to Wildlife Fisheries Management -FO 3015 Forest Description and Analysis -FO 4213 Forest Biometrics -FO 4313 Spatial Techniques in Natural Resources Management -FO 4453 Remote Sensing Applications -FO 4473 GIS for Natural Resource Management <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for	

Bachelor of Science in Data Science **Business Information Systems** Business Information Systems focuses on applying data science to solve business problems in the context of digital transformation. Modern enterprise management presents complex challenges of identifying actionable knowledge derived from the emerging flood of new data captured by an exploding number of online processes and connected sensors and devices. Companies are redesigning their organizational structures and processes to leverage this new capability – the concentration in BIS will prepare students to play a leading role in this emerging digital transformation and help companies compete in the increasingly connected environment. Students will combine their in-depth understanding of business processes with the ability to apply data science techniques to analyze business data, enabling them to aid strategic decision making. The concentration in BIS prepares students to solve business problems and identify business opportunities in the context of intelligent data analytics and digital transformation. Students will master these skills through learning exercises and real-world projects, engaging in projects to develop and implement a data-driven decision process or solution based on data mining, artificial intelligence, machine learning, and knowledge discovery of hidden relationships that can be exploited for new advances in business strategy. This experiential learning approach enables students to leverage their skillsets in a contextualized environment, complete with project management requirements, cost-benefit trade-offs, implementation obstacles (including financial, political, administrative, temporal, and legal barriers), team building and culture-building requirements, progress measurement methods, and complete life-cycle management of data science projects. <u>Students will choose two courses from the following:</u> -BL 2413 Legal Environment of Business -ACC 2013 Financial Accounting		Bachelor of Science in Data Science **Business Information Systems** Business Information Systems focuses on applying data science to solve business problems in the context of digital transformation. Modern enterprise management presents complex challenges of identifying actionable knowledge derived from the emerging flood of new data captured by an exploding number of online processes and connected sensors and devices. Companies are redesigning their organizational structures and processes to leverage this new capability – the concentration in BIS will prepare students to play a leading role in this emerging digital transformation and help companies compete in the increasingly connected environment. Students will combine their in-depth understanding of business processes with the ability to apply data science techniques to analyze business data, enabling them to aid strategic decision making. The concentration in BIS prepares students to solve business problems and identify business opportunities in the context of intelligent data analytics and digital transformation. Students will master these skills through learning exercises and real-world projects, engaging in projects to develop and implement a data-driven decision process or solution based on data mining, artificial intelligence, machine learning, and knowledge discovery of hidden relationships that can be exploited for new advances in business strategy. This experiential learning approach enables students to leverage their skillsets in a contextualized environment, complete with project management requirements, cost-benefit trade-offs, implementation obstacles (including financial, political, administrative, temporal, and legal barriers), team building and culture-building requirements, progress measurement methods, and complete life-cycle management of data science projects. <u>Students will choose two courses from the following:</u> -BL 2413 Legal Environment of Business -ACC 2013 Financial Accounting	

-ACC 2023 Managerial Accounting -EC 2113 Macro Economics -EC 2123 Macro Economics -FIN 3123 Financial Management -MGT 3113 Principles of Management -MKT 3013 Principles of Marketing -MKT 3323 International Logistics <u>Required:</u> -BQA 4423 Business Decision Analysis -BIS 4533 Decision Support Systems -BIS 4113 BIS Security Management -BIS 4753 Structured Systems Analysis and Design -BIS 4763 BIS Senior Seminar (analytics project) -BQA 4413 Business Forecasting & Predictive Analytics Students will register for one 4000 level business elective. Students will register for one non-business course for which they meet the prerequisites from any of the data science concentrations. **Marketing and Supply Chain Analytics** *Marketing and Supply Chain Analytics focuses on applying data science to solve problems relating to marketing and supply chain management using digital technologies. Marketing and supply chain functions are increasingly driven by data. Tasks such as analyzing online social media content, planning advertising campaigns across multiple online channels, designing cutting edge products, and delivering products through complex global supply chains, all require cutting edge data analytics skills. The concentration in Marketing and Supply Chain Analytics prepares students to solve data-driven business problems relating to marketing and supply chain management. Fundamental discipline courses expose students to important principles in business. Core concentration courses include upper-level courses focused on marketing and supply-chain analytics. There is a strong focus on practical project-driven learning in this concentration, with several classes offering the chance to work on projects for*		-ACC 2023 Managerial Accounting -EC 2113 Macro Economics -EC 2123 Macro Economics -FIN 3123 Financial Management -MGT 3113 Principles of Management -MKT 3013 Principles of Marketing -MKT 3323 International Logistics <u>Required:</u> -BQA 4423 Business Decision Analysis -BIS 4533 Decision Support Systems -BIS 4113 BIS Security Management -BIS 4753 Structured Systems Analysis and Design -BIS 4763 BIS Senior Seminar (analytics project) -BQA 4413 Business Forecasting & Predictive Analytics Students will register for one 4000 level business elective. Students will register for one non-business course for which they meet the prerequisites from any of the data science concentrations. **Marketing and Supply Chain Analytics** **Marketing and supply chain functions are increasingly driven by data. Tasks such as analyzing online social media content, planning advertising campaigns across multiple online channels, designing cutting edge products, and delivering products through complex global supply chains, all require cutting edge data analytics skills.** **The concentration in Marketing and Supply Chain Analytics prepares students to solve data-driven business problems relating to marketing and supply chain management. Fundamental discipline courses expose students to important principles in business. Core concentration courses include upper-level courses focused on marketing and supply-chain analytics. There is a strong focus on practical project-driven learning in this concentration, with several classes offering the chance to working on projects for local companies and non-profit organizations.**	

local companies and non-profit organizations. Fundamental Discipline Courses <u>Students will take the following two courses:</u> MKT 3013 Principles of Marketing *MKT* 3323 International Logistics <u>Students will choose one course from the following:</u> BL 2413 Legal Environment of Business ACC 2013 Financial Accounting ACC 2023 Managerial Accounting EC 2113 Macro Economics EC 2123 Macro Economics FIN 3123 Financial Management MGT 3113 Principles of Management Core Concentration Courses *<u>Students will take the following course:</u>* *BQA 4423 Business Decision Analysis* Students will take *three* of the following courses: BIS 4533 Decision Support Systems MKT 4533 Marketing Research MKT 4213 Internet Marketing *MKT* 4033 International Transportation *MKT* 4013 Procurement *MKT* 4313 Physical Distribution Management Breadth Requirement Students will register for one non-business course for which they meet the prerequisites from any of the data science concentrations.		Fundamental Discipline Courses <u>Students will take the following two courses:</u> MKT 3013 Principles of Marketing **SCL** 3323 International Logistics <u>Students will choose one course from the following:</u> BL 2413 Legal Environment of Business ACC 2013 Financial Accounting ACC 2023 Managerial Accounting EC 2113 Macro Economics EC 2123 Macro Economics FIN 3123 Financial Management MGT 3113 Principles of Management *Core Concentration Courses <u>Students will choose **four** courses from the following list:</u> BIS 4533 Decision Support Systems **MKT 3213 Retailing** MKT 4533 Marketing Research MKT 4213 Internet Marketing **MKT 4223 Social Media Marketing** **MKT 4413 Consumer Behavior** **MKT 4913 Live Case Course in Marketing** **SCL** 4033 International Transportation **SCL** 4013 Procurement **SCL** 4313 Physical Distribution Management **SCL 4333 Supply Chain Process Analysis** **SCL 4913 Live Case Course in Supply Chain Logistics** ***Students can replace up to two core concentration courses with 3000 or 4000 level MKT or SCL courses not listed above with the consent of their advisor.** Breadth Requirement Students will register for one non-business course for which they meet the prerequisites from any of the data science concentrations.	

Capstone Students will register for two of the following courses: *MKT 4333 International Supply Chain Management* BQA 4413 Business Forecasting & Predictive Analytics BQA 4000 Directed Individual Study in Business Quantitative Analysis **Social Data Analytics** Social Data Analytics focuses on applying data science to understand sociological and political aspects of social media communication. Social Data Analytics prepares students to apply data science to understand sociological and political aspects of social media communication. Fundamental discipline courses lay discipline-specific foundations in social science. Core concentration courses prepare students for more advanced work with social media sources. From the following courses, choose 9 hours, but no more than 6 hours in any one field: -AN 1103 Intro to Anthropology -AN 1143 Intro to Cultural Anthropology -AN 1344 Intro to Bio Anthropology -CO 1403 Intro to Mass Media -GR 2313 Maps and Remote Sensing -PS 1313 Intro to International Relations -PS 1513 Comparative Government -PS 2703 Intro to Public Policy -CRM 1003 Crime and Justice in America -SO 1003 Intro to Sociology -SO 1103 Contemporary Social Problems Choose 15 hours from the following 3-hour courses: -AN 3343 Intro to Forensic Anthropology -AN 4173 Environment and Society -AN 4163 Anthropology of International Development -AN 4323 Plagues and People -CO 4213 Political Communication -CO 4283 Health Communication -CRM 4253 White Collar and Computer Crime -GR 3303 Survey of Geospatial Technologies		Capstone Students will register for two of the following courses: BQA 4413 Business Forecasting & Predictive Analytics **BQA 4423 Business Decision Analysis** BQA 4000 Directed Individual Study in Business Quantitative Analysis **Social Data Analytics** Social Data Analytics focuses on applying data science to understand sociological and political aspects of social media communication. Social Data Analytics prepares students to apply data science to understand sociological and political aspects of social media communication. Fundamental discipline courses lay discipline-specific foundations in social science. Core concentration courses prepare students for more advanced work with social media sources. From the following courses, choose 9 hours, but no more than 6 hours in any one field: -AN 1103 Intro to Anthropology -AN 1143 Intro to Cultural Anthropology -AN 1344 Intro to Bio Anthropology -CO 1403 Intro to Mass Media -GR 2313 Maps and Remote Sensing -PS 1313 Intro to International Relations -PS 1513 Comparative Government -PS 2703 Intro to Public Policy -CRM 1003 Crime and Justice in America -SO 1003 Intro to Sociology -SO 1103 Contemporary Social Problems Choose 15 hours from the following 3-hour courses: -AN 3343 Intro to Forensic Anthropology -AN 4173 Environment and Society -AN 4163 Anthropology of International Development -AN 4323 Plagues and People -CO 4213 Political Communication -CO 4283 Health Communication -CRM 4253 White Collar and Computer Crime -GR 3303 Survey of Geospatial Technologies	

-GR 4123 Urban Geography -PS 4243 State Election Policy and Politics -PS 4283 Public Opinion -PS 4293 Political Behavior -PS 4343 International Conflict and Security -PS 4373 International Terrorism -PS 4464 Political Analysis -PS 4523 Democracy and Inequality -PS 4613 Civil Wars and Intra-State Conflict -SO 3303 Rural Sociology -SO 4113 Social Organization and Change -SO 4123 Poverty, Analysis: People, Organization, and Program -SO 4173 Environment and Society <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science		-GR 4123 Urban Geography -PS 4243 State Election Policy and Politics -PS 4283 Public Opinion -PS 4293 Political Behavior -PS 4343 International Conflict and Security -PS 4373 International Terrorism -PS 4464 Political Analysis -PS 4523 Democracy and Inequality -PS 4613 Civil Wars and Intra-State Conflict -SO 3303 Rural Sociology -SO 4113 Social Organization and Change -SO 4123 Poverty, Analysis: People, Organization, and Program -SO 4173 Environment and Society <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science	
Psychoinformatics Psychoinformatics is a subfield of phycology for the acquisition, organization, and synthesis of data collected from psychology to reveal information about psychological traits such as personality and mood. Psychology has historically relied on experiments and questionnaires to collect data. These methods face several disadvantages such as small number of participants and bias and unreliable memory. Psychoinformatics solves these problems by storing Big Data related to psychology (such as communications on smartphones or social media websites) and then data mining for relevant psychological information. This concentration prepares students to apply data science to the field of psychology. Fundamental discipline courses lay discipline-specific foundations in psychology. Core concentration courses prepare students for more advanced work with cognitive science and psychology. Students in the Psychology concentration are recommended to take PSY 1013 as their second required social science general education course. <u>Required:</u>		**Psychoinformatics** Psychoinformatics is a subfield of phycology for the acquisition, organization, and synthesis of data collected from psychology to reveal information about psychological traits such as personality and mood. Psychology has historically relied on experiments and questionnaires to collect data. These methods face several disadvantages such as small number of participants and bias and unreliable memory. Psychoinformatics solves these problems by storing Big Data related to psychology (such as communications on smartphones or social media websites) and then data mining for relevant psychological information. This concentration prepares students to apply data science to the field of psychology. Fundamental discipline courses lay discipline-specific foundations in psychology. Core concentration courses prepare students for more advanced work with cognitive science and psychology. Students in the Psychology concentration are recommended to take PSY 1013 as their second required social science general education course. <u>Required:</u>	

-PSY 1021 Careers in Psychology -PSY 3104 Introductory Psychological Stats -PSY 3314 Experimental Psychology <u>Choose 9 hours from the following 3-hour courses:</u> -PSY 3343 Psychology of Learning -PSY 3623 Social Psychology -PSY 3713 Cognitive Psychology -PSY 3803 Intro to Developmental Psych -PSY 4403 Biological Psychology <u>Choose 6 hours from among any of the 4000 level Psychology courses.</u> <u>Required:</u> -PSY 4000 Directed Individual Study in Psychology *Students must perform research in a laboratory and present their capstone project at the Undergraduate Research Symposium.*		-PSY 1021 Careers in Psychology -PSY 3104 Introductory Psychological Stats -PSY 3314 Experimental Psychology <u>Choose 9 hours from the following 3-hour courses:</u> -PSY 3343 Psychology of Learning -PSY 3623 Social Psychology -PSY 3713 Cognitive Psychology -PSY 3803 Intro to Developmental Psych -PSY 4403 Biological Psychology <u>Choose 6 hours from among any of the 4000 level Psychology courses.</u> <u>Required:</u> -PSY 4000 Directed Individual Study in Psychology *Students must perform research in a laboratory and present their capstone project at the Undergraduate Research Symposium.*	
Statistical Modeling The Statistical Modeling concentration prepares students to apply advanced statistical methods to build analytical and statistical models. Core concentration courses prepare students for more advanced work in statistics. The concentration focuses on statistical models and methods that are needed to discover and validate patterns in Big Data. It includes upper-levels statistics and mathematics courses and a two-semester practicum to apply the theoretical machinery of quantitative methods to the solution of real-world problems involving Big-Data. <u>Required:</u> -MA 2923 Intro. to Modern Scientific Computing -MA 4183 Math. Found. of Machine Learning -MA 4133 Discrete Mathematics -MA 4143 Graph Theory -ST 4213 Nonparametric -ST 4313 Intro to Spatial Statistics -ST 4543 Intro to Mathematical Statistics I -ST 4243 Data Analysis I -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science		**Statistical Modeling** The Statistical Modeling concentration prepares students to apply advanced statistical methods to build analytical and statistical models. Core concentration courses prepare students for more advanced work in statistics. The concentration focuses on statistical models and methods that are needed to discover and validate patterns in Big Data. It includes upper-levels statistics and mathematics courses and a two-semester practicum to apply the theoretical machinery of quantitative methods to the solution of real-world problems involving Big-Data. <u>Required:</u> -MA 2923 Intro. to Modern Scientific Computing -MA 4183 Math. Found. of Machine Learning -MA 4133 Discrete Mathematics -MA 4143 Graph Theory -ST 4213 Nonparametric -ST 4313 Intro to Spatial Statistics -ST 4543 Intro to Mathematical Statistics I -ST 4243 Data Analysis I -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science	

-DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science **Computational Intelligence** Computational Intelligence focuses on understanding artificial intelligence and machine learning approaches to develop effective strategies to solve large-scale data science problems. This includes creation of new software tools, algorithms, and using existing programs and libraries. The concentration includes foundational courses in software development, algorithms, artificial intelligence, and machine learning. These ideas are then applied in various computer science-related contexts in upper-level courses and in a two-semester practicum. <u>Required:</u> -CSE 2213 Methods & Tools in Software Development -CSE 4163 Designing Parallel Algorithms -CSE 4683 Machine Learning and Soft Computing -CSE 4833 Introduction to Algorithms -CSE 4643 AI Robotics -CSE 4623 Computational Biology -CSE 4653 Cognitive Science -CSE 4293 Artificial Intelligence for Cybersecurity -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science **Geoinformatics** The Geoinformatics concentration includes courses in three categories within the Department of Geosciences, comprising a total of 30 hours, with a focus on geospatial data acquisition and analysis. This includes nine hours of required coursework related to: (1) statistical analysis of geospatial data, (2) analysis and visualization of spatial data using Geographic Information Systems (GIS), and (3) acquisition of spatial information from remote sensing platforms. A further 15 hours will consist of courses in meteorology/climatology, geospatial science, and/or geology, with specific courses chosen based on student interest. These courses serve as the basis for		-DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science **Computational Intelligence** Computational Intelligence focuses on understanding artificial intelligence and machine learning approaches to develop effective strategies to solve large-scale data science problems. This includes creation of new software tools, algorithms, and using existing programs and libraries. The concentration includes foundational courses in software development, algorithms, artificial intelligence, and machine learning. These ideas are then applied in various computer science-related contexts in upper-level courses and in a two-semester practicum. <u>Required:</u> -CSE 2213 Methods & Tools in Software Development -CSE 4163 Designing Parallel Algorithms -CSE 4683 Machine Learning and Soft Computing -CSE 4833 Introduction to Algorithms -CSE 4643 AI Robotics -CSE 4623 Computational Biology -CSE 4653 Cognitive Science -CSE 4293 Artificial Intelligence for Cybersecurity -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science **Geoinformatics** The Geoinformatics concentration includes courses in three categories within the Department of Geosciences, comprising a total of 30 hours, with a focus on geospatial data acquisition and analysis. This includes nine hours of required coursework related to: (1) statistical analysis of geospatial data, (2) analysis and visualization of spatial data using Geographic Information Systems (GIS), and (3) acquisition of spatial information from remote sensing platforms. A further 15 hours will consist of courses in meteorology/climatology, geospatial science, and/or geology, with specific courses chosen based on student interest. These courses serve as the basis for attaining core knowledge on the nature and	

attaining core knowledge on the nature and processes related to geoscience data, which is critical for applying data science skills in an appropriate and representative way with respect to geospatial information. The courses also act to showcase the specific applications of data science within the geoscience community, which will help students define future research strategies and interests as well as prepare them for careers as data scientists and geoinformatics professionals. The final six-hour capstone course will provide a means to apply general and discipline-specific data science skills by working directly with one or more geoscience research faculty. The course will involve designing and completing a research-based project that requires acquiring, analyzing, and interpreting geospatial information using sound scientific principles and critical thinking. By completing the Geoinformatics concentration within the Data Science BS, students will learn not only the skills and techniques required to be successful data scientists within the geospatial community, but also the knowledge necessary to make critical and relevant decisions within the scientific fields that rely on the collection and interpretation of spatial information. <u>Required:</u> -GR 4303 Principles of GIS2 -GR 4633 Statistical Climatology <u>Choose one of the following:</u> -GR 4333 Remote Sensing of the Physical Environment2 -GR 4783 Satellite Meteorology -GR 4883 Radar Meteorology <u>Elective courses (15 hours – choose 5 from the following)</u> -GR 4733 Synoptic Meteorology -GR 4643 Physical Meteorology and Climatology I -GR 4693 Physical Meteorology and Climatology II -GR 4613 Applied Climatology -GR 4783 Satellite Meteorology1 -GR 4883 Radar Meteorology1 •-GR 4553 Computer Methods in Meteorology -GR 4313 Advanced GIS2 -GR 4323 Cartographic Sciences2		processes related to geoscience data, which is critical for applying data science skills in an appropriate and representative way with respect to geospatial information. The courses also act to showcase the specific applications of data science within the geoscience community, which will help students define future research strategies and interests as well as prepare them for careers as data scientists and geoinformatics professionals. The final six-hour capstone course will provide a means to apply general and discipline-specific data science skills by working directly with one or more geoscience research faculty. The course will involve designing and completing a research-based project that requires acquiring, analyzing, and interpreting geospatial information using sound scientific principles and critical thinking. By completing the Geoinformatics concentration within the Data Science BS, students will learn not only the skills and techniques required to be successful data scientists within the geospatial community, but also the knowledge necessary to make critical and relevant decisions within the scientific fields that rely on the collection and interpretation of spatial information. <u>Required:</u> -GR 4303 Principles of GIS2 -GR 4633 Statistical Climatology <u>Choose one of the following:</u> -GR 4333 Remote Sensing of the Physical Environment2 -GR 4783 Satellite Meteorology -GR 4883 Radar Meteorology <u>Elective courses (15 hours – choose 5 from the following)</u> -GR 4733 Synoptic Meteorology -GR 4643 Physical Meteorology and Climatology I -GR 4693 Physical Meteorology and Climatology II -GR 4613 Applied Climatology -GR 4783 Satellite Meteorology1 -GR 4883 Radar Meteorology1 •-GR 4553 Computer Methods in Meteorology -GR 4313 Advanced GIS2 -GR 4323 Cartographic Sciences2	

-GR 4333 Remote Sensing of the Physical Environment1,2 -GR 4343 Advanced Remote Sensing2 -GR 4363 GIS Programming2 -GR 4123 Urban Geography -GG 3613 Water Resources -GG 4233 Applied Geophysics -GG 4413 Structural Geology -GG 4503 Geomorphology -GG 4523 Coastal Environments -GG 4543 Community Engagement in Geosciences -GG 4613 Physical Hydrogeology 1 Can be used as remaining hours if not already used for the required concentration 2 Counts towards the Geospatial and Remote Sensing Minor <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science		-GR 4333 Remote Sensing of the Physical Environment1,2 -GR 4343 Advanced Remote Sensing2 -GR 4363 GIS Programming2 -GR 4123 Urban Geography -GG 3613 Water Resources -GG 4233 Applied Geophysics -GG 4413 Structural Geology -GG 4503 Geomorphology -GG 4523 Coastal Environments -GG 4543 Community Engagement in Geosciences -GG 4613 Physical Hydrogeology *1 Can be used as remaining hours if not already used for the required concentration* *2 Counts towards the Geospatial and Remote Sensing Minor* <u>Required:</u> -DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science -DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science	
Sports Science The Sports Science concentration focuses on applying data science to understand the physiological and neuromechanical stresses on athletes. Students will apply data science techniques with foundational exercise science knowledge to assess physiological and neuromechanical variables and then interpret findings to improve training and performance. Students completing the Sports Science concentration will be prepared for careers working with individuals in a wide variety of sport and performance settings. <u>Required:</u> -BIO 1004: Anatomy and Physiology** -EP 3233: Anatomical Kinesiology -EP 3304: Exercise Physiology -EP 4504: Mechanical Analysis Human Performance Emphasis <u>Choose one of the following:</u> -PE 3163: Sport Psychology -SS 4003: Sport Philosophy <u>Required:</u> -PE 4283: Sport Biomechanics		**Sports Science** The Sports Science concentration focuses on applying data science to understand the physiological and neuromechanical stresses on athletes. Students will apply data science techniques with foundational exercise science knowledge to assess physiological and neuromechanical variables and then interpret findings to improve training and performance. Students completing the Sports Science concentration will be prepared for careers working with individuals in a wide variety of sport and performance settings. <u>Required:</u> -BIO 1004: Anatomy and Physiology** -EP 3233: Anatomical Kinesiology -EP 3304: Exercise Physiology -EP 4504: Mechanical Analysis Human Performance Emphasis <u>Choose one of the following:</u> -PE 3163: Sport Psychology -SS 4003: Sport Philosophy <u>Required:</u> -PE 4283: Sport Biomechanics	

-PE 3313: Sport Physiology -EP 4153: Training and Cond for Sport * -DSCI 4663: Data Science Capstone 2 * Serves as requirement for DSCI 4553 Data Science Capstone 1 ** If taken as a general education credit, an additional Sports Science course will be added.		-PE 3313: Sport Physiology -EP 4153: Training and Cond for Sport * -DSCI 4663: Data Science Capstone 2 * Serves as requirement for DSCI 4553 Data Science Capstone 1 ** If taken as a general education credit, an additional Sports Science course will be added. **Biomedical Informatics** **The Biomedical Informatics concentration focuses on applying data science to analyze biological systems, medical signals, and health data. Students will integrate computational problem-solving, biomedical signal processing, and machine learning to extract meaningful insights from physiological and molecular data. By combining principles of biomedicine, computational biology, and public health, students will develop the skills to model biological systems, interpret biomedical signals, and contribute to advancements in healthcare technology. Graduates of this concentration will be prepared for careers in biomedical data analysis, healthcare technology development, and research in computational and systems biology.** **<u>Required:</u>** **-ABE 4633 Biomedical Signals and Sensors** **-ABE 4463 Introduction to Imaging in Biological Systems** **-BCH 4443 Introduction to Public Health** **-ABE 4323 Physiological Systems in Biomedical Engineering** **-DSCI 4553: Capstone Project 1 for Bachelor of Science in Data Science** **-DSCI 4663: Capstone Project 2 for Bachelor of Science in Data Science** **Biomedical Modeling** **<u>Choose 1 of the following</u>:** **-CSE 4683 Machine Learning and Soft Computing** **-CSE 4623 Computational Biology** **-MA 4343 Mathematical Modeling with Biological and Ecological Applications**	

		-BIO 4124 Mathematical Modeling for Biologists **Biomedical Systems and Diagnostics** **<u>Choose 1 of the following:</u>** **-ABE 4443 Spectroscopic Sensing in Biosystems** **-EP 3613 Exercise Electrocardiography** **-ABE 1912 Computational Problem Solving for Biological Systems** **Biomedicine and Health Applications** **<u>Choose 2 of the following:</u>** **-FNH 3103 Introduction to Health Professions** **-CSE/PSY 4653 Cognitive Science** **-BCH 2013 Intro to Forensic Science** **-BCH 4113 Essentials of Molecular Genetics**	
Total Hours	123	Total Hours	123

Concentration Coursework

JUSTIFICATIONS

The addition of the Biomedical Informatics concentration enhances the data science program by addressing the growing intersection of computational methods and healthcare. With the increasing reliance on biomedical data for diagnostics, treatment planning, and public health decision-making, this concentration equips students with the necessary skills to analyze complex biological systems, interpret medical signals, and apply machine learning to healthcare challenges. Students will benefit from a well-rounded curriculum that integrates computational problem-solving, biomedical signal processing, and biological modeling, preparing them for diverse career opportunities in healthcare technology, biomedical research, and public health analytics. This concentration strengthens the program by broadening its interdisciplinary reach, attracting students interested in applying data science to life sciences, and meeting the rising industry demand for professionals with expertise in biomedical data analysis and informatics.

STUDENT LEARNING OUTCOMES AND ASSESSMENT

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply theory, techniques, and tools throughout the data science lifecycle and employ the resulting knowledge to satisfy stakeholders' needs.
7. Understand how to 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.

8. Understand, construct, evaluate, and choose data-enabled predictive models using state-of-the-art artificial intelligence, machine learning, statistical modeling, and model evaluation methods.

Assessment will be realized through the Institutional Effectiveness report process. External reviewers will also be identified to conduct periodic self-studies and, when possible, to seek accreditation through the ABET Computing Accrediting Commission or other accreditation bodies relevant to establishing the overall quality of the program.

SUPPORT – Letters of support for both proposals
PROPOSED 4-LETTER ABBREVIATION DSCI
EFFECTIVE DATE Fall 2025
CIP NIMBER 30.7001

MEMO:

To: UCCC Chair

From: Robert Moore, Chair, Department Curriculum Committee

MISSISSIPPI STATE UNIVERSITY
MARKETING, QUANTITATIVE ANALYSIS AND BUSINESS LAW

Date: April 2, 2025
Re: Letter of Support for Department Name Change

The Department faculty have reviewed the proposed Modification of the Marketing and Supply Chain Analytics Degree. Modification reflects SCL course code designation, adding options to required and capstone courses. In lieu of signing, an email statement of support/non-support/abstention is acceptable.

Faculty	Support	Do Not Support	Signature (note if abstaining)	Date
Dr. Frank Adams	☑	☐		2 Apr 25
Dr. Iva Ballard	☑	☐	Iva B. Ballard	04/02/2025
Dr. Chris Boone	☑	☐		2 Apr 25
Dr. Mike Breazeale	☑	☐		4/2/25
~~Haley Brown, JD~~	☐	☐	BCAW FACULTY	not needed
Dr. Joel Collier	☑	☐		4-7-25
Dr. Shelby Dudgeon	☑	☐	Shelby Dudgeon	04/04/25
Dr. Stephen France	☑	☐		4/8/2025
Dr. Lu He	☑	☐		4/2/2025
Dr. Bingyan Hu	☑	☐		4-2-25
Dr. Myles Landers	☑	☐		4-2-25
Dr. Jason Lueg	☐	☐	ABSTAIN	4/2/25
~~Stephanie Mallette, JD~~	☐	☐	BCAW FACULTY	not needed
Dr. Robert Moore	☑	☐		4.2.25
Dr. Melissa Moore	☑	☐		4-2-25
Dr. Sheida Riahi	☑	☐		4-3-25
Dr. Kevin Shanahan	☑	☐		4-6-25

Faculty	Support	Do Not Support	Signature	Date
Dr. Jason Shin	☑	☐		4/3/25
Ms. Emily Stokes	☒	☐	Emily St	4/3/25
Dr. Keith Story	☐	☐		
Dr. Laura Walton	☐	☐		
Dr. Eric Xu	☒	☐	See Attached	
Dr. Yueran Zhuo	☒	☐	See attached	

Moore, Robert

From: Xu, Eric
Sent: Thursday, April 3, 2025 2:10 AM
To: Moore, Robert
Subject: Re: Letter of Support for Modification to Data Science: Marketing and Supply Chain Analytics Concentration Degree

Hi Rob,

I support these modifications.

Best regards,
Eric

From: Moore, Robert <RMoore@business.msstate.edu>
Sent: Wednesday, April 2, 2025 12:34 PM
To: Adams, Frank <fadams@business.msstate.edu>; Ballard, Iva <IBallard@business.msstate.edu>; Boone, Christopher <cboone@business.msstate.edu>; Breazeale, Mike <mbreazeale@business.msstate.edu>; Collier, Joel <JCollier@business.msstate.edu>; Dudgeon, Shelby <SDudgeon@business.msstate.edu>; France, Stephen <sfrance@business.msstate.edu>; He, Lu <lhe@business.msstate.edu>; Hu, Bingyan <bhu@business.msstate.edu>; Landers, Myles <vlanders@business.msstate.edu>; Lueg, Jason <JLueg@business.msstate.edu>; Moore, Melissa <mmoore@business.msstate.edu>; Riahi, Sheida <sr1315@msstate.edu>; Shanahan, Kevin <KShanahan@business.msstate.edu>; Shin, Jason <jshin@business.msstate.edu>; Stokes, Emily <ekd47@msstate.edu>; Story, Keith <kstory@business.msstate.edu>; Walton, Laura <LWalton@business.msstate.edu>; Xu, Eric <exu@business.msstate.edu>; Zhuo, Yueran <yzhuo@business.msstate.edu>
Subject: Letter of Support for Modification to Data Science: Marketing and Supply Chain Analytics Concentration Degree

Greetings,

We are in the process of making a Modification to Data Science: Marketing and Supply Chain Analytics Concentration Degree
I have a letter of support/non support/absetention for this change for your consideration in the copy room.

If you could, provide your vote by Thursday APR 10th.

The proposed modification will reflect:
A detailed list of changes is given below.
1. Swap MKT codes for SCL codes.
2. **SCL 4333 Supply Chain Process Analysis** - Change Name + This is no longer a required capstone course, but is in the list of options for core courses.
3. Added **BQA 4423 Business Decision Analysis** as a capstone option.
3. Added marketing and experiential learning live case courses options:
MKT 3213 Retailing
MKT 4223 Social Media Marketing
MKT 4413 Consumer Behavior
MKT 4913 Live Case Course in Marketing
SCL 4333 Supply Chain Process Analysis
SCL 4913 Live Case Course in Supply Chain Logistics
***Students can replace up to two courses with MKT or SCL courses not listed above, with the consent of their advisor.**

Moore, Robert

From: Zhuo, Yueran
Sent: Wednesday, April 2, 2025 12:47 PM
To: Moore, Robert
Subject: Re: Letter of Support for Modification to Data Science: Marketing and Supply Chain Analytics Concentration Degree

Dear Rob,

Please kindly consider this email as my statement of support to the modification to this program. Thank you for your hard work!

Best
Yueran

> On Apr 2, 2025, at 12:34 PM, Moore, Robert <RMoore@business.msstate.edu> wrote:
>
> Greetings,
>
> We are in the process of making a Modification to Data Science: Marketing and Supply Chain Analytics Concentration Degree
> I have a letter of support/non support/absetention for this change for your consideration in the copy room.
>
> If you could, provide your vote by Thursday APR 10th.
>
> The proposed modification will reflect:
> A detailed list of changes is given below.
> 1. Swap MKT codes for SCL codes.
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> **MKT 3213 Retailing**
> **MKT 4223 Social Media Marketing**
> **MKT 4413 Consumer Behavior**
> **MKT 4913 Live Case Course in Marketing**
> **SCL 4333 Supply Chain Process Analysis**
> **SCL 4913 Live Case Course in Supply Chain Logistics**
> ***Students can replace up to two courses with MKT or SCL courses not listed above, with the consent of their advisor.**
>
> In lieu of signing, an email statement of support/non-support/abstention is acceptable.
>
> Rob
>
> Robert S. Moore, Ph.D.

MISSISSIPPI STATE UNIVERSITY

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

April 17, 2025

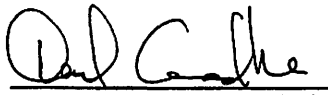
Andy Perkins
University Committee on Courses and Curricula
PO Box 5268
Mississippi State, MS 39762

Dear Dr. Perkins:

The members of the University Committee on Data Science provide this letter to express support for the modification of the Marketing and Supply Chain Analytics concentration for the BS in Data Science.

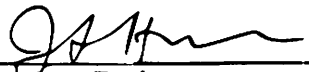
Sincerely,

The following undersigned members of the University Committee on Data Science

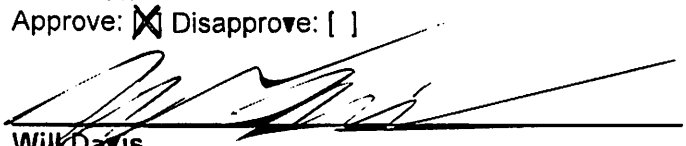


Dan Gadke, UDSC Chair
Approve: [X] Disapprove: [ ]

Bimal Balakrishnan
Approve: [X] Disapprove: [ ]

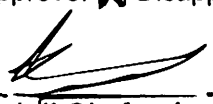


Jonathan Barlow
Approve: [X] Disapprove: [ ]

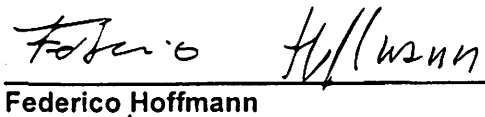


Will Davis
Approve: [X] Disapprove: [ ]

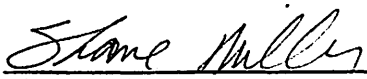
Stephen France
Approve: [X] Disapprove: [ ]



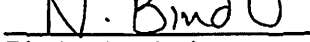
Mahdi Ghafoori
Approve: [X] Disapprove: [ ]



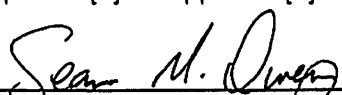
Federico Hoffmann
Approve: [X] Disapprove: [ ]



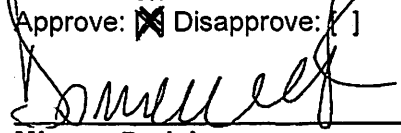
Shane Miller
Approve: [ ] Disapprove: [ ]



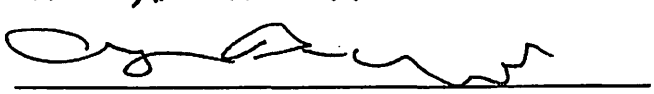
Bindu Nanduri
Approve: [ ] Disapprove: [ ]



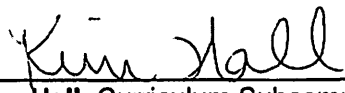
Sean Owen
Approve: [X] Disapprove: [ ]



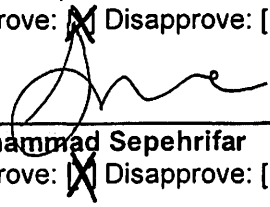
Mimmo Parisi
Approve: [X] Disapprove: [ ]



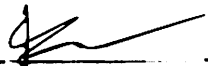
Andy Perkins
Approve: [ ] Disapprove: [ ]



Kim Hall, Curriculum Subcommittee Chair
Approve: [X] Disapprove: [ ]



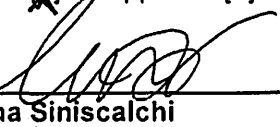
Mohammad Sepehrifar
Approve: [X] Disapprove: [ ]



Julie Shedd
Approve: [X] Disapprove: [ ]

Seungjae Shin Digitally signed by Seungjae Shin
Date: 2025.02.27 11:23:34 -05'00'

Seungjae Shin
Approve: [X] Disapprove: [ ]

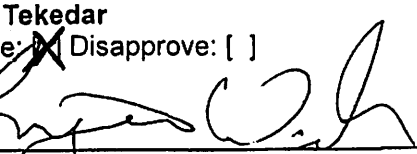


Carolina Siniscalchi
Approve: [X] Disapprove: [ ]

Jason Street
Approve: [X] Disapprove: [ ]

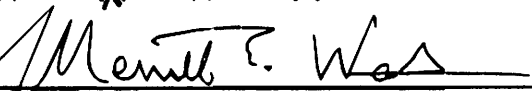
Ed Swan
Approve: [X] Disapprove: [ ]

Hasan Tekedar
Approve: [X] Disapprove: [ ]



Ryan Walker
Approve: [ ] Disapprove: [ ]

Guiming Wang
Approve: [X] Disapprove: [ ]



Merrill Warkentin
Approve: [X] Disapprove: [ ]

MISSISSIPPI STATE UNIVERSITY

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

April 17, 2025

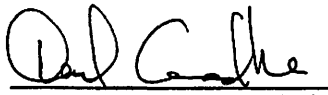
Andy Perkins
University Committee on Courses and Curricula
PO Box 5268
Mississippi State, MS 39762

Dear Dr. Perkins:

The members of the University Committee on Data Science provide this letter to express support for the addition of the Biomedical Informatics concentration for the BS in Data Science.

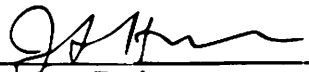
Sincerely,

The following undersigned members of the University Committee on Data Science

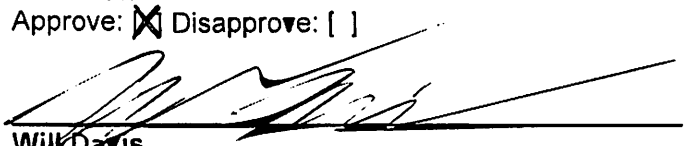


Dan Gadke, UDSC Chair
Approve: [X] Disapprove: [ ]

Bimal Balakrishnan
Approve: [X] Disapprove: [ ]

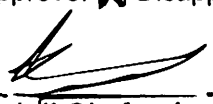


Jonathan Barlow
Approve: [X] Disapprove: [ ]

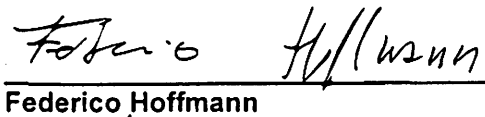


Will Davis
Approve: [X] Disapprove: [ ]

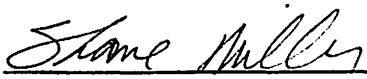
Stephen France
Approve: [X] Disapprove: [ ]



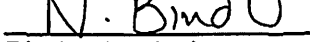
Mahdi Ghafoori
Approve: [X] Disapprove: [ ]



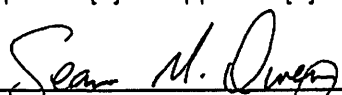
Federico Hoffmann
Approve: [X] Disapprove: [ ]



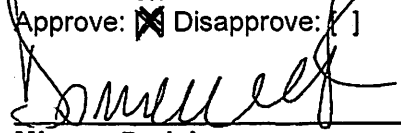
Shane Miller
Approve: [ ] Disapprove: [ ]



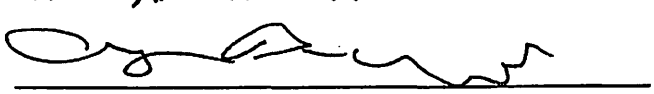
Bindu Nanduri
Approve: [ ] Disapprove: [ ]



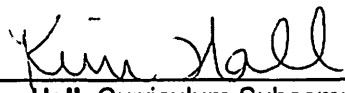
Sean Owen
Approve: [X] Disapprove: [ ]



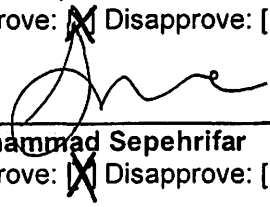
Mimmo Parisi
Approve: [X] Disapprove: [ ]



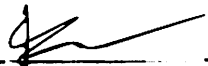
Andy Perkins
Approve: [ ] Disapprove: [ ]



Kim Hall, Curriculum Subcommittee Chair
Approve: [X] Disapprove: [ ]



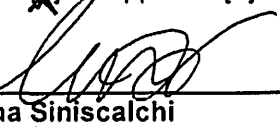
Mohammad Sepehrifar
Approve: [X] Disapprove: [ ]



Julie Shedd
Approve: [X] Disapprove: [ ]

Seungjae Shin Digitally signed by Seungjae Shin
Date: 2025.02.27 11:23:34 -05'00'

Seungjae Shin
Approve: [X] Disapprove: [ ]

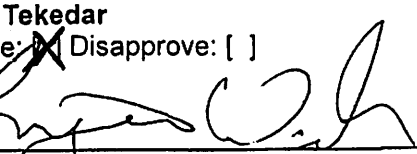


Carolina Siniscalchi
Approve: [X] Disapprove: [ ]

Jason Street
Approve: [X] Disapprove: [ ]

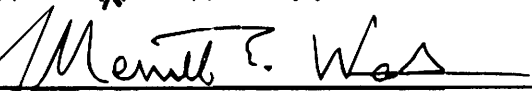
Ed Swan
Approve: [X] Disapprove: [ ]

Hasan Tekedar
Approve: [X] Disapprove: [ ]



Ryan Walker
Approve: [ ] Disapprove: [ ]

Guiming Wang
Approve: [X] Disapprove: [ ]



Merrill Warkentin
Approve: [X] Disapprove: [ ]

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF AGRICULTURAL AND BIOLOGICAL ENGINEERING
P. O. Box 9632
Mississippi State, MS 39762
P. 662.325.3282
abe.msstate.edu

November 26, 2024

Dr. Andy Perkins, Chair
University Committee on Courses and Curricula
Mississippi State University, MS 39762

Dear Dr. Perkins,

The Department of Agricultural and Biological Engineering would like to offer **a new** concentration in Bio**medical I**nformatics as part of the Bachelor of Science in Data Science. This concentration would be a great addition to the data science efforts across the university for all undergraduate students. This letter is to indicate ABE faculty have reviewed and approved the requested concentration.

Amirtaha Taebi Digitally signed by Amirtaha Taebi Date: 2024.12.06 13:46:32 -06'00'

Amirtaha Taebi, Ph.D.

J. Alex Thomasson Digitally signed by J. Alex Thomasson Date: 2024.12.08 09:16:14 -06'00'

J. Alex Thomasson, Department Head

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF AGRICULTURAL AND BIOLOGICAL ENGINEERING
P. O. Box 9632
Mississippi State, MS 39762
P. 662.325.3282
abe.msstate.edu

Dong Chen, Ph.D.	Dong Chen Digitally signed by Dong Chen Date: 2024.12.03 18:50:15 +08'00'
Daniel Chesser, Ph.D.	Gary D. Chesser, Jr. Digitally signed by Gary D. Chesser, Jr. Date: 2024.12.02 10:07:30 -06'00'
Steven H. Elder, Ph.D.	Steven H. Elder Digitally signed by Steve Elder Date: 2024.12.02 09:43:02 -06'00'
John Wes Lowe, Ph.D.	
Hussein Gharakhani, Ph.D.	Hussein Gharakhani Digitally signed by Hussein Gharakhani Date: 2024.11.26 15:08:11 -06'00'
Seungil Kim, Ph.D.	Seungil Kim Digitally signed by Seungil Kim Date: 2024.11.26 15:28:43 -06'00'
Vitor Souza Martins, Ph.D.	Vitor Martins Digitally signed by Vitor Martins Date: 2024.11.26 15:34:56 -06'00'
Prem Parajuli, Ph.D.	Prem Parajuli Digitally signed by Prem Parajuli Date: 2024.12.03 06:59:20 -06'00'
Joel O. Paz, Ph.D.	Digitally signed by Joel O. Paz Date: 2024.12.03 09:00:01 -06'00'
Lauren B. Priddy, Ph.D.	Lauren Priddy Digitally signed by Lauren Priddy Date: 2024.12.03 09:16:24 -06'00'
Maryam Mohammadi-Aragh, Ph.D.	Maryam Mohammadi-Aragh Digitally signed by Maryam Mohammadi-Aragh Date: 2024.12.03 13:08:38 -06'00'
Mary Love M. Tagert, Ph.D.	Mary Love Tagert Digitally signed by Mary Love Tagert Date: 2024.12.03 15:17:49 -06'00'
S.D. Filip To, Ph.D.	647e9ab1-eae4-49e0-afcf-12facb38470d Digitally signed by 647e9ab1-eae4-49e0-afcf-12facb38470d Date: 2024.12.06 13:06:12 -06'00'
David Van Den Heever, Ph.D.	David Vandenheever Digitally signed by David Vandenheever Date: 2024.12.06 13:33:02 -06'00'
Nuwan Wijewardane, Ph.D.	Nuwan K. Wijewardane Digitally signed by Nuwan K. Wijewardane Date: 2024.12.06 13:36:34 -06'00'
Fei Yu, Ph.D.	Fei Yu Digitally signed by Fei Yu Date: 2024.12.06 13:39:02 -06'00'
Xin Zhang, Ph.D.	Xin Zhang Digitally signed by Xin Zhang Date: 2024.12.06 13:42:39 -06'00'

MISSISSIPPI STATE UNIVERSITY
COLLEGE OF AGRICULTURE & LIFE SCIENCES
MS AGRICULTURAL & FORESTRY EXPERIMENT STATION
Office of the Dean and Director
Box 9760
Mississippi State, MS 39762

March 26, 2025

Dr. Andy Perkins, Chair
University Committee on Courses and Curricula
Mississippi State University

Dear Dr. Perkins:

The College of Agriculture and Life Sciences is pleased to support the addition of the concentration in Biomedical Informatics to the current Bachelor of Science in Data Science degree. Undoubtedly, there is interest among MSU students in this topic, and this new program will provide a unique blend of courses that will make our students more well-rounded and informed. Please let me know if you have any questions or concerns.

Regards,

Darrell L. Sparks, Jr., Ph.D.
Associate Dean & Professor
College Agriculture and Life Sciences
Mississippi State University
Box 9760
Mississippi State, MS 39762
darrell.sparks@msstate.edu
Office: 662-325-5307

MISSISSIPPI STATE UNIVERSITY™
JAMES WORTH BAGLEY
COLLEGE OF ENGINEERING

OFFICE OF THE
DEAN OF ENGINEERING

Robert A. Green, Ph.D. P.E., F.NSPE
Interim Dean
green@bagley.msstate.edu

25 March 2025

Dr. Andy Perkins, Chair
University Committee on Courses and Curricula
Mississippi State University
Mississippi State, MS 39762

Dear Dr. Perkins,

The Bagley College of Engineering is supportive of the proposed concentration in Biomedical Informatics as part of the Bachelor of Science in Data Science as being submitted by the Agricultural and Biological Engineering Department.

Sincerely,

Robert A. Green

Robert A. Green, Ph.D., P.E., F.NSPE
Interim Dean

MISSISSIPPI STATE UNIVERSITY

DATA SCIENCE ACADEMIC INSTITUTE
133 Etheredge Hall
Mississippi State, MS 39762
662.325.3168
datascience.msstate.edu

February 24, 2025

To: UCCC Committee Members

From: Mimmo Parisi
Executive Director
Data Science Academic Institute

The Data Science Academic Institute supports the inclusion of the following two courses within the curriculum for the proposed Bachelor of Science in Data Science, Biomedical Informatics concentration. This concentration will be hosted by the Department of Ag and Bio Engineering.

DSCI 4553 Data Science Senior Capstone I
DSCI 4663 Data Science Senior Capstone II

Sincerely,

Mimmo Parisi

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF ARTS & SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES

P.O. Box GY
295 E Lee Blvd
Mississippi State, MS 39762

P. 662.325.3120
F. 662.325.7939
www.biology.msstate.edu

February 14, 2025

To whom it may concern:

The Department of Biological Sciences is submitting this letter in support of the addition of a concentration in Biomedical Informatics for the Bachelor of Science in Data Science degree program, and the inclusion of BIO 4124 Mathematical Modeling for Biologists in this proposed curriculum option. This course is a general elective option for our students and will continue to be offered regularly for the foreseeable future with sufficient seats to accommodate our own students and any additional. We do not anticipate that what enrollment increases arise from inclusion in this new track will affect the availability of this course for other students or the way we offer it. We are happy to help provide a new pathway for Data Science students that provides options as they consider their future career goals.

Sincerely,

Angus Dawe

Digitally signed by Angus Dawe
Date: 2025.02.14 11:05:27 -06'00'

Angus L. Dawe, Ph.D.
Professor
Department Head

Evan L. Kaplan
2025.02.14 16:13:43 -06'00'

Evan Kaplan, Ph.D.
Assistant Teaching Professor
Chair, Biological Sciences Curriculum Committee

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

Stephen A. Torri
CSE Committee on Courses and Curricula Computer Science and Engineering
Mississippi State University
665 George Perry Street
Box 9637
Mississippi State, MS 39762

February 10, 2025

Dr. Perkins,

To Whom It May Concern,

The faculty of the Computer Science and Engineering (CSE) department has officially approved adding the following courses to the Bachelor of Science (BS) in Data Science (Biomedical Informatics concentration) program:

- CSE 4663 Human-Computer Interaction
- CSE 4623 Computational Biology
- CSE 4683 Machine Learning and Soft Computing.

Please feel free to contact me if you have any questions or concerns.

Stephen A. Torri
Committee Chair
Associate Professor

Jingdao Chen, Ph.D.
Committee Member
Assistant Professor

Kortni Neal
Committee Member
Instructor

Joshua Crowson
Committee Member
Instructor

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF BIOCHEMISTRY, NUTRITION, AND HEALTH PROMOTION
P. O. Box 9655
Mississippi State, MS 39762
P. 662.325.2640
bchnhp.msstate.edu

February 12, 2025

Dr. Mimmo Parisi
Executive Director
Data Science Academic Institute
Mailstop 9545
133 Etheredge Hall
Mississippi State, MS 39762

Re: **Letter of Support for Data Science Concentration in Biomedical Informatics**

Dear Dr. Parisi,

I am pleased to write this letter in support of the Data Science concentration in Biomedical Informatics. The Department of Biochemistry, Nutrition & Health Promotion (BCHNHP) sees the Data Science Biomedical Informatics concentration as a positive for MSU and BCHNHP. Of note, the BCHNHP faculty are pleased that six of their courses will be included in the elective list for the concentration. These courses are…

- BCH 4443 – Intro to Public Health
- BCH 4013 – Principles of Biochemistry
- BCH 4113 – Essentials of Molecular Genetics
- BCH 2013 – Intro to Forensic Science
- BCH 4333 – Advanced Forensic Science
- FNH 3103 – Intro to Health Professions

Please feel free to contact me if you have any questions.

Sincerely,

Daniel G. Peterson, Ph.D.
William L. Giles Distinguished Professor
Interim Head
Department of Biochemistry, Nutrition & Health Promotion

MISSISSIPPI STATE UNIVERSITY

College of Arts and Sciences
Department of Mathematics and Statistics
P.O. Box MA
Mississippi State, MS 39762
P. 662.325.3414
F. 662.325.0005
www.math.msstate.edu

To Whom it may concern,

The Department of Agriculture and Biological Engineering is adding a biomedical concentration to their data science program. The department wishes to add the course MA 4343: Mathematical Modeling with Biological and Ecological Applications.

The Department of Mathematics and Statistics supports the inclusion of course MA 4343 within the curriculum for the proposed Bachelor of Science in Data Science, Biomedical Informatics concentration which will be hosted by the Department of Agriculture and Biological Engineering. The Courses and Curriculum Committee at the department level, the entity writing this letter, is in full support.

Sincerely,

Dr. Matt McBride
Associate Professor and Undergraduate Coordinator
Department of Mathematics and Statistics
Mississippi State University

Dr. Mohammad Sepehrifar
Associate Professor
Department of Mathematics and Statistics
Mississippi State University

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: 2025.02.18 09:35:30 -06'00'

Dr. Mohsen Razzaghi
Professor and Department Head
Department of Mathematics and Statistics
Mississippi State University

Chuanxi Qian

Dr. Chuanxi Qian
Professor
Department of Mathematics and Statistics
Mississippi State University

Dr. Jon Woody
Associate Professor
Department of Mathematics and Statistics
Mississippi State University

Robert Banik

Mr. Robert Banik
Instructor and Undergraduate Advising Coordinator
Department of Mathematics and Statistics
Mississippi State University

MISSISSIPPI STATE UNIVERSITY

DEPARTMENT OF KINESIOLOGY
P.O. Box 6186
216 McCarthy Gym
Mississippi State, MS 39762
P. 662.325.2963
F. 662.325.4525
www.kinesiology.msstate.edu

January 17th, 2025

TO: UCCC Committee Members

FROM: JohnEric Smith, Ph.D. (Department Head for the Department of Kinesiology)

RE: Department of Kinesiology the inclusion of course EP 3613 Exercise Electrocardiography within the curriculum for the proposed Bachelor of Science in Data Science, Biomedical Informatics concentration (Page 1 of 2).

The Department of Kinesiology supports the inclusion of course EP 3613 Exercise Electrocardiography within the curriculum for the proposed Bachelor of Science in Data Science, Biomedical Informatics concentration which will be hosted by the Department of Ag and Bio Engineering. The Courses and Curriculum Committee at the department level, the entity writing this letter, is in full support.

Sincerely,

JohnEric Smith, PhD

As indicated by the signatures below, a majority of the Department of Kinesiology faculty have approved the proposal as written for submission to the UCCC.

Stamatis Agiovlasitis, PhD

LeeAnn Joe

Zachary M. Gillen, PhD

Adam Knight, PhD

Erin Grant-Butler

John Lamberth, PhD

Megan E. Holmes, PhD

Guillermo Oviedo, PhD

Zhujun Pan, PhD

Benjamin Wax, PhD

Holley Gentry Wiley, PhD

MISSISSIPPI STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES
Department of Psychology
P.O. Box 6161
180 Magruder Street
Mississippi State, MS 39762
P. 662.325.3202
F. 662.325.7212
www.psychology.msstate.edu

March 5, 2025

Members of the UCCC:

The Department of Psychology supports the inclusion of PSY/CSE 4653 Cognitive Science within the curriculum for the proposed Bachelor of Science in Data Science, Biomedical Informatics concentration which will be hosted by the Department of Ag and Bio Engineering. The department's undergraduate curriculum has reviewed the proposed curriculum and approves of the inclusion of PSY/CSE 4653.

Sincerely,

The Psychology Undergraduate Committee

Danielle K. Nadorff, Phd.

Digitally signed by Danielle K. Nadorff, Ph.D.
Date: 2025.03.05 16:12:22 -06'00'

Danielle Nadorff, Ph.D. (Committee chair)

Allison Jaeger

Digitally signed by Allison Jaeger
Date: 2025.03.05 16:15:15 -06'00'

Allison Jaeger Berena, Ph.D. (Committee member)

3-6-25

Jonathan Black, M.S. (Committee member)