Office of Academic Affairs

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P.O. Box BQ; Mississippi State, MS 39762

Center for Academic Excellence

Executive Director: Dr. Clay Armstrong

YMCA 1st Floor Mailstop 9711 Web site http://cae.msstate.edu Telephone: (662) 325-2957 195 Lee Blvd. Mississippi State, MS 39762

Mission

The Center for Academic Excellence works with all MSU students – especially incoming freshmen – to help assure their smooth transition to the university and success on their road to graduation. The Center promotes student learning and an enriched MSU student experience by providing services, programs, and resources that:

- assist the student with his or her transition into university life;
- aid the student's decision-making, especially during the freshman year; and
- help achieve personal and academic progress and growth, targeted toward graduation. The Center's strategic goals are to:
- offer services, programs, and classes that assist the student's transition to MSU;
- support student academic planning and progress through high-quality academic advising and timely feedback;
- provide informative and engaging first-year classes and programs;
- provide academic support for all students;
- develop programs and take actions that are informed by analyses of relevant data; and
- engage the university in the support of students in their progress toward graduation.

The Center for Academic Excellence operates the College Ready program, a summer program through which an incoming freshman can take two college classes prior to their first fall semester at discounted cost. The primary goal of College Ready is to smooth the student's transition to their new living and learning environment. The Center also includes the Freshman Year Navigator program, hiring 30 or more students each year to work as Navigators and help their assigned freshmen throughout their first year at MSU.

The Center also provides Supplemental Instruction and tutoring in 80 or more challenging classes each semester. It also works closely with the University Academic Advising Center, which provides all advising for the freshman class's largest major, Undeclared. Finally, the Center works with the Pathfinders program to emphasize the importance of class attendance – class attendance is the #1 predictor of student success.

University Academic Advising Center (UAAC) Undeclared (UND)

Director: Lynda K. Moore

Professional Academic Coordinators: Bailey Berry, Wendy Dandass, Jermaine Jackson, Katy Richey, and Jaiki Shumpert

252 Famous Maroon Band Street.; Mail Stop 9729 Web site at http://www.uaac.msstate.edu/ Telephone (662) 325-4052; Fax (662) 325-4026 P.O. Box 6117, Mississippi State, MS 39762

UAAC Mission to Undeclared Students

The University Academic Advising Center was established to meet the needs of those students who have competing interests in more than one major area, as well as those who are uncertain of their career and educational goals. The professional staff at the center offer one-on-one advising services to

traditional and non-traditional undergraduate students and provide accurate information concerning general curriculum requirements, university policies and procedures, campus resources and various programs of study. The center is committed to assisting students with the development of educational plans consistent with their life goals, objectives and abilities. Students normally remain Undeclared for no more than three semesters during which time advisors recommend courses that meet basic core requirements in relation to "majors of interest" for each individual student. Students must declare a major before completing 75 hours.

UAAC advisors traditionally recommend that Undeclared students enroll in 15-18 hours each fall and spring semester with careful considerations given to courses required in each student's majors of interest. It is the goal of the center to assist each Undeclared student in enrolling in courses that satisfy the minimum core requirements for any major the student may later choose with respect to each department's right to specify more stringent requirements than the University as a whole. However, ultimate responsibility for taking the UAAC staff's advice rests with the student.

UAAC urges students to make appointments with advisors at the center to establish a plan of action. The University Academic Advising Center staff encourages all Undeclared majors to utilize services offered by the Career Center, the Counseling Center, the Learning Center, Center for Student Success, Student Support Services and other support programs offered by various units at MSU.

The UAAC advises for the University Studies degree, the Complete to Compete Program, and Applied Science.

Bachelor of Applied Science (BAS)

Major Advisors: Kali Dunlap, Kristi Dearing, and Jaiki Shumpert

The applied baccalaureate degree is specifically intended to serve the needs of adult learners, military, and community college transfers who have completed a technical associate degree program, such as an Associate of Applied Science (AAS) from a SACSCOC accredited community college in the state of Mississippi or comparable regionally-accredited community college. The Bachelor of Applied Science is a flexible pathway design that allows learners to customize their education to advance in their career paths. Building upon the AAS or other technical associate degree program, the BAS degree prepares adult learners, military, and community college transfers to assume leadership roles and make an elevated contribution in the workplace.

The minimum number of hours required in the BAS degree is 120 hours, which may include 60 hours of credit with a 2.0 GPA earned as a part of the AAS degree. No more than 25 percent of the 120 credits may be earned through prior learning assessment and/or competency-based learning. Of the 120 credit hours, 30 shall be completed in residency at Mississippi State University and 30 shall be upper division (3/4000-level) courses. The delivery format of courses for the program may be offered face-to-face or online. In addition, up to 45 hours of approved technical or military credit may be used to fulfill the required elective hours. See advisor for information.

Degree Requirements

English	Composition
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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	
Humanities		
See General Education Core		6
Mathematics		
See General Education Core		3
Fine Arts		
See General Education Core		3
Natural Sciences		
See General Education Core. Two labs requ	uired.	6
Social Sciences		
See General Education Core		6
Oral Communication Requirement		
CO 1003	Fundamentals of Public Speaking	3
or CO 1013	Introduction to Communication	
Or other approved speech course		
Computer Literacy		
TECH 1273	Computer Applications	2-3
or BIS 1012	Introduction to Business Information Systems	
Or other approved technology course		
Extra University Core		

See General Education Core or Advisor Approved Upper Level Courses	6
Junior/Senior Writing Requirements	
Consult Advisor	3
Major Core Emphasis Areas	
Consult Advisor	
Upper Level Courses (one, two, or three emphasis areas)	30
Electives	
May include approved technical or military credits	45
Total Hours	120

University Studies - Complete to Compete Program (C2C)

Major C2C Coaches: Kristi Dearing, Kali Dunlap, Lynda Moore, and Jaiki Shumpert

The Bachelor of Science in University Studies is housed in the Office of the Provost and Executive Vice President (Academic Affairs). A student who wishes to pursue the major in University Studies must enroll in the Complete to Compete (C2C) program (http://www.msc2c.org/) and be eligible for admission to the degree program. To be eligible, the student must meet the criteria of an adult learner, i.e. must be at least 21 years old, have earned at least 90 semester credit hours, have not earned a baccalaureate degree, and must not have attended a postsecondary institution within the last twenty-four months.

The University Studies degree is designed to provide eligible adult learners who have not completed a baccalaureate degree a pathway to return to Mississippi State University to complete a degree. The curriculum is individualized to meet the needs and career goals of the returning adult learner. An eligible student will meet with a C2C Coach and work with faculty to develop the best degree plan possible.

Degree Requirements

English Composition		
EN 1103	English Composition I	3
EN 1113	English Composition II	3
Humanities		
See General Education Core		6
Mathematics		
See General Education Core		3
Fine Arts		
See General Education Core		3
Natural Sciences		
See General Education Core. Two labs	required.	6
Social Sciences		
See General Education Core		6
Oral Communication Requirement		
CO 1003	Fundamentals of Public Speaking	3
or CO 1013	Introduction to Communication	
Or other approved speech course		
Computer Literacy		
TECH 1273	Computer Applications	2-3
or BIS 1012	Introduction to Business Information Systems	
Or other approved technology course		
Extra University Core		
See General Education Core or Advisor	Approved Upper Level Courses	24
Junior/Senior Writing Requirements		
Consult with C2C Coach and/or Faculty	Advisor	3
Major Core Emphasis Areas		
Consult C2C Coach and/or Faculty Advi		
Upper Level Courses (one, two, or three	emphasis areas)	30
General Electives		25-28
Total Hours		120

Bachelor of Science in Data Science

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.

English

Liigiisii		
EN 1103	English Composition I	3-4
or EN 1104	Expanded English Composition I	
EN 1113	English Composition II	3
or EN 1173	Accelerated Composition II	
Fine Arts		
Any Gen Ed course		3
Natural Sciences		
2 lab based sciences required by Gen Ed		6
Math		
MA 1713	Calculus I	3
MA 1723	Calculus II	3
MA 2733	Calculus III	3
Humanities		
PHI 1113	Introduction to Logic	3
Any additional Gen Ed course		3
Social/Behavioral Sciences		
DSCI 2013	Data Science Literacy	3
Any additional Gen Ed course		3
Oral Communication		
CO 3213	Small Group Communication	3
Technical Writing		
CO 3223	Communication & Media Research Methods	3
Major Core		
MA 3123	Introduction to Statistical Inference	3
MA 3113	Introduction to Linear Algebra	3
MA 4523	Introduction to Probability	3
or ST 4523	Introduction to Probability	
CSE 1284	Introduction to Computer Programming	4
CSE 1384	Intermediate Computer Programming	4
CSE 2813	Discrete Structures	3
CSE 2383	Data Structures and Analysis of Algorithms	3
CSE 3763	Ethical and Legal Issues in Computing	3
CSE 4503	Database Management Systems	3
CSE 4633	Artificial Intelligence	3
BIS 3233	Management Information Systems	3
DSCI 2012	Data Science Lab – Data Wrangling	2
DSCI 2022	Data Science Lab - Cloud, High-Performance, and Quantum Computing	2
DSCI 3012	Data Science Lab: Description, Analysis, and Inference	2
DSCI 3013	Fundamentals of Data Acquisition	3
DSCI 3022	Data Science Lab – Data Visualization	2

DSCI 3032	Data Science Lab – Artificial Intelligence	2
DSCI 4013	Data Visualization	3
Concentration Courses		30
Total Hours		123

Each area of concentration combines fundamental, field-specific content, concentration electives designed to apply data science to the field, and a sexhour 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 college on campus.

Visualization and Visual Analytics for Built Environment Concentration

Fundamental Discipline Courses

Complete 8 of the following:		24
ART 1123	Design I	
ART 2803	Introduction to Computing for Art	
ART 2813	Intermediate Computing for Designers	
ART 4813	Introduction of Multimedia I Design and Authoring	
BCS 2313	Virtual Design and Construction	
ID 3603	Digital Design for Interiors	
ID 3363	3/D CAD/Modeling	
ARC 2713	Environmental Building Systems I	
ARC 3723	Environmental Building Systems II	
ARC 4633	Architecture and Virtual Spaces	
Capstone		
DSCI 4553	Data Science Capstone 1	3
DSCI 4663	Data Science Capstone 2	3

Computational Agriculture and Natural Resources Concentration

Fundamental Discipline Courses

Fundamental Discipline Courses		
Choose 1 course from the following:		3
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	
Choose 1 course from the following:		3
SBP 1103	Introduction to Sustainable Bioproducts	
WFA 3133	Applied Ecology	
FO 4123	Forest Ecology	
Core Concentration Courses		
Choose 6 hours from the following:		6
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	

Pusiness Information Syste		-
DSCI 4663	Data Science Capstone 2	3
DSCI 4553	Data Science Capstone 1	3
Capstone	·	
FO 4473	GIS for Natural Resource Management	
FO 4453	Remote Sensing Applications	
FO 4313	Spatial Technologies in Natural Resources Management	
FO 4213	Forest Biometrics	
FO 3015	Forest Description and Analysis	
WFA 4253	Application of Spatial Technologies to Wildlife and Fisheries Management	
WFA 4243	Wildlife Techniques	
WFA 4123	Wildlife & Fisheries Biometrics	
SBP 4253	Quantitative Methods in Sustainable Bioproducts	
SBP 4013	Wood Anatomy	
CFR		
ADS 4523	Internet-Based Management in Livestock Industries	
PSS 4483	Introduction to Remote Sensing Technologies	
BCH 4803	Integrative Protein Evolution	
ABE 4483	Introduction to imaging in Biological Systems Introduction to Remote Sensing Technologies	
ABE 4463	Introduction to Imaging in Biological Systems	
ABE 4263	Soil and Water Management	
ABE 4163	Agricultural and Off-Road Machinery Management	
ABE 3513	The Global Positional System and Geographic Information Systems in Agriculture and Engineering	
ABE 2873	Land Surveying	
AEC 4733	Econometric Analysis in Agriculture Economics	
AEC 4413	Public Problems of Agriculture	
AEC 4363	Economics of Precision Agriculture	
AEC 4223	Applied Quantitative Analysis in Agricultural Economics	
AEC 4133	Analysis of Food Markets and Prices	
CALS		
Choose 12 hours from the following:		12
Applied Courses		
FO 4123	Forest Ecology	
FO 4113	Forest Resource Economics	
FO 2443	Essentials of Biotechnology	
FO 2213	Forest Measurements	
WFA 4613	Landscape Ecology	
WFA 4313	Fisheries Management	
SBP 2123	Materials and Processing of Structural Bioproducts	
SBP 2012	Introduction to Bioproduct Industries	
CFR		
ADS 3313	Introduction to Meat Science	

Business Information Systems Concentration

Fundamental Discipline Courses

(Choose 3 courses from the following:		9
	BL 2413	The Legal Environment of Business	
	ACC 2013	Principles of Financial Accounting	
	ACC 2023	Principles of Managerial Accounting	
	EC 2113	Principles of Macroeconomics	
	EC 2123	Principles of Microeconomics	
	FIN 3123	Financial Management	

MGT 3113	Principles of Management	
MKT 3013	Principles of Marketing	
MKT 3323	International Logistics	
Core Concentration Courses		
BQA 4423	Business Decision Analysis	3
BIS 4533	Decision Support Systems	3
BIS 4113	Business Information Systems Security Management	3
BIS 4753	Structured Systems Analysis and Design	3
4000-level business course		3
Capstone		
BIS 4763	BIS Senior Seminar	3
BQA 4413	Business Forecasting and Predictive Analytics	3
Marketing and Supply Chair	n Concentration	
Fundamental Discipline Courses		
MKT 3013	Principles of Marketing	3
MKT 3323	International Logistics	3
Choose 2 courses from the following:		6
BL 2413	The Legal Environment of Business	
ACC 2013	Principles of Financial Accounting	
ACC 2023	Principles of Managerial Accounting	
EC 2113	Principles of Macroeconomics	
EC 2123	Principles of Microeconomics	
FIN 3123	Financial Management	
MGT 3113	Principles of Management	
Core Concentration Courses		
Choose 4 courses from the following:		12
BQA 4423	Business Decision Analysis	
BIS 4533	Decision Support Systems	
MKT 4013	Procurement	
MKT 4033	International Transportation	
MKT 4213	Internet Marketing	
MKT 4313	Physical Distribution Management	
MKT 4533	Marketing Research	
Capstone		
MKT 4333	International Supply Chain Management	3
BQA 4413	Business Forecasting and Predictive Analytics	3
Social Data Analytica Const	ntration	
Social Data Analytics Conce	entration	
Social Data Analytics Conce	entration	
-		9
Fundamental Discipline Courses		9
Fundamental Discipline Courses Choose 9 hours from the following (but no m	ore than 6 hours in any one field):	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103	ore than 6 hours in any one field): Introduction to Anthropology	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103 AN 1143	ore than 6 hours in any one field): Introduction to Anthropology Introduction to Cultural Anthropology	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103 AN 1143 AN 1344	ore than 6 hours in any one field): Introduction to Anthropology Introduction to Cultural Anthropology Introduction to Biological Anthropology	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103 AN 1143 AN 1344 CO 1403	ore than 6 hours in any one field): Introduction to Anthropology Introduction to Cultural Anthropology Introduction to Biological Anthropology Introduction to the Mass Media	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103 AN 1143 AN 1344 CO 1403 GR 2313	ore than 6 hours in any one field): Introduction to Anthropology Introduction to Cultural Anthropology Introduction to Biological Anthropology Introduction to the Mass Media Maps and Remote Sensing	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103 AN 1143 AN 1344 CO 1403 GR 2313 PS 1313	ore than 6 hours in any one field): Introduction to Anthropology Introduction to Cultural Anthropology Introduction to Biological Anthropology Introduction to the Mass Media Maps and Remote Sensing Introduction to International Relations	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103 AN 1143 AN 1344 CO 1403 GR 2313 PS 1313 PS 1513	ore than 6 hours in any one field): Introduction to Anthropology Introduction to Cultural Anthropology Introduction to Biological Anthropology Introduction to the Mass Media Maps and Remote Sensing Introduction to International Relations Comparative Government	9
Fundamental Discipline Courses Choose 9 hours from the following (but no m AN 1103 AN 1143 AN 1344 CO 1403 GR 2313 PS 1313 PS 1513 PS 2703	ore than 6 hours in any one field): Introduction to Anthropology Introduction to Cultural Anthropology Introduction to Biological Anthropology Introduction to the Mass Media Maps and Remote Sensing Introduction to International Relations Comparative Government Introduction to Public Policy	9

Core Concentration Courses Choose 15 hours from the following	O.	1:
AN 3343	-	1:
AN 4163	Introduction to Forensic Anthropology	
	Anthropology of International Development	
AN 4173	Environment and Society	
AN 4323	Plagues and People	
CO 4213	Political Communication	
CO 4283	Health Communication	
CRM 4253	White Collar Crime and Elite Deviance	
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 Conflicts	
SO 3303	Rural Sociology	
SO 4113	Social Organization and Change	
SO 4123	Poverty, Analysis: People, Organization and Program	
SO 4173	Environment and Society	
Capstone		
DSCI 4553	Data Science Capstone 1 Data Science Capstone 2	;
Psychoinformatics Co Fundamental Discipline Courses		
PSY 1021	Careers in Psychology	
PSY 3104	Introductory Psychological Statistics	
PSY 3314	Experimental Psychology	
Core Concentration Courses		•
Choose 9 hours from the following:		
Choose 9 hours from the following: PSY 3343	: Psychology of Learning	
ŭ		
PSY 3343	Psychology of Learning	
PSY 3343 PSY 3623	Psychology of Learning Social Psychology	
PSY 3343 PSY 3623 PSY 3713	Psychology of Learning Social Psychology Cognitive Psychology	
PSY 3343 PSY 3623 PSY 3713 PSY 3803	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000 Statistical Modeling Core Concentration Courses	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology Concentration	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000 Statistical Modeling Core Concentration Courses Choose 24 hours from the following	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology Concentration g:	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000 Statistical Modeling Core Concentration Courses Choose 24 hours from the following MA 2923	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology Concentration g: Introduction to Modern Scientific Computing	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000 Statistical Modeling Core Concentration Courses Choose 24 hours from the following MA 2923 MA 4133	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology Concentration g: Introduction to Modern Scientific Computing Discrete Mathematics	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000 Statistical Modeling Company Courses Core Concentration Courses Choose 24 hours from the following MA 2923 MA 4133 MA 4143	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology Concentration g: Introduction to Modern Scientific Computing Discrete Mathematics Graph Theory	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000 Statistical Modeling Companies Core Concentration Courses Choose 24 hours from the following MA 2923 MA 4133 MA 4143 MA 4183	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology Concentration g: Introduction to Modern Scientific Computing Discrete Mathematics Graph Theory Mathematical Foundations of Machine Learning	
PSY 3343 PSY 3623 PSY 3713 PSY 3803 PSY 4403 6 hours of 4000-level PSY courses Capstone PSY 4000 Statistical Modeling Companies Core Concentration Courses Choose 24 hours from the following MA 2923 MA 4133 MA 4143	Psychology of Learning Social Psychology Cognitive Psychology Introduction to Developmental Psychology Biological Psychology Directed Individual Study in Psychology Concentration g: Introduction to Modern Scientific Computing Discrete Mathematics Graph Theory	

CT 4242	Introduction to Chatial Statistics	
ST 4313	Introduction to Spatial Statistics	
ST 4543	Introduction to Mathematical Statistics I	
Capstone	Data Calanas Canatana 4	2
DSCI 4553	Data Science Capstone 1	3
DSCI 4663	Data Science Capstone 2	3
Computational Intelligence	Concentration	
Core Concentration Courses		
CSE 2213	Methods and Tools in Software Development	3
CSE 4163	Designing Parallel Algorithms	3
CSE 4293	Al for Cybersecurity	3
CSE 4623	Computational Biology	3
CSE 4643	Al Robotics	3
CSE 4653	Cognitive Science	3
CSE 4683	Machine Learning and Soft Computing	3
CSE 4833	Introduction to Analysis of Algorithms	3
Capstone		
DSCI 4553	Data Science Capstone 1	3
DSCI 4663	Data Science Capstone 2	3
Geoinformatics Concentrati	on	
Fundamental Discipline Courses		
GR 4303	Principles of GIS	3
GR 4633	Statistical Climatology	3
Choose 1 of the following:		3
GR 4333	Remote Sensing of the Physical Environment	
GR 4783	Satellite Meteorology	
GR 4883	Radar Meteorology	
Core Concentration Courses		
Choose 15 hours from the following:		15
GR 4123	Urban Geography	
GR 4313	Advanced GIS ²	
GR 4323	Cartographic Sciences ²	
GR 4333	Remote Sensing of the Physical Environment ^{1, 2}	
GR 4343	Advanced Remote Sensing in Geosciences ²	
GR 4363	Geographic Information Systems Programming ²	
GR 4553	Computer Methods in Meteorology	
GR 4613	Applied Climatology	
GR 4643	Physical Meteorology and Climatology I	
GR 4693	Physical Meteorology and Climatology II	
GR 4733	Synoptic Meteorology	
GR 4783	Satellite Meteorology ¹	
GR 4883	Radar Meteorology ¹	
GG 3613	Water Resources	
GG 4233	Applied Geophysics	
GG 4503	Geomorphology	
GG 4523	Coastal Environments	
GG 4543	Community Engagement in Environmental Geosciences	
GG 4613	Physical Hydrogeology	
Capstone		
DSCI 4553	Data Science Capstone 1	3
DSCI 4663	Data Science Capstone 2	3

- Can be used as remaining hours if not already used for the required concentration.
- Counts towards the Geospatial and Remote Sensing Minor

Geospatial and Remote Sensing Minor

Technology revolutions have driven the expectations of remote sensing and geospatial technologies to an all-time high for a new generation of users across a vast number of disciplines. Advances in computational technologies, visualization products, and sensor technologies have led to the development of unprecedented capabilities in geospatial technologies, such as remote sensing and geographic information systems. With the plethora of remote sensing technologies, the industry is poised to develop operational remote sensing applications that fundamentally impact management of resources. Mississippi State University has developed broad, multi-disciplinary efforts in spatial technologies of many types, and is a leader among universities in education and outreach activities to prepare the next generation for utilizing these technologies. One of the primary limitations in the development of this industry is the need for a better-educated workforce that can understand and utilize the tools of these spatial technologies. Education in geospatial and remote sensing technologies is by nature multi-disciplinary; therefore, a minor program that crosses departmental and college boundaries has been developed to address these needs. This undergraduate minor can thus serve the needs of MSU students with diverse backgrounds from a variety of disciplines. Students may strategically assess which courses within their disciplinary academic program can be used for the minor, thus satisfying the needs of both and maximizing their education experience.

The minor should represent a student's mastery of basic GIS and Remote Sensing coursework. A minimum of 3 hours of coursework is required in each of these areas:

- · Geographic Information Systems
- · Remote Sensing
- · Advanced Geospatial Technologies

Students are required to complete 6 hours of additional coursework within the category of Geospatial Applications. A list of geospatial application electives is listed, and it includes courses that are offered by several MSU departments.

Due to the multi-disciplinary nature of this program, the Office of the Academic Affairs is the resident office for admission and administration. Thus, the program is not focused on a single college or department. A program coordinator, appointed by the Provost, advises students seeking the GRS minor, and assists departmental advisors. The coordinator is also responsible for conducting the necessary transcript audits and authorizing the awarding of the minor.

For further information and enrollment information, contact the GRS program coordinator:

Dr. John Rodgers
Department of Geosciences
355 Lee Blvd, 108 Hilbun Hall
Mississippi State, MS 39762
662-325-3915, jcr100@msstate.edu

A total of 15 semester hours are required: nine selected from the list of required courses, and six selected from the list of elective courses.

Required Courses

Remote Sensing		
Choose one of the following:		3
ABE /PSS 4483/6483	Introduction to Remote Sensing Technologies	
ECE 4423/6423	Introduction to Remote Sensing Technologies	
GR 4333/6333	Remote Sensing of the Physical Environment	
FO 4453/6453	Remote Sensing Applications	
GIS		
Choose one of the following:		3
GR 4303/6303	Principles of GIS	
WFA 4253/6253	Application of Spatial Technologies to Wildlife and Fisheries Management	
FO 4472/6472		
AND		
FO 4471/6471		
Advanced Occasional Comments		

Advanced Geospatial Coursework

Choose one of the following: 3

FO 4313/6313

FO 8313	Spatial Statistics for Natural Resources	
FO 8353	Ecological Modeling in Natural Resources	
FO 8173	Advanced Spatial Technologies	
GR 4313/6313	Advanced GIS	
GR 4343/6343	Advanced Remote Sensing in Geosciences	
GR 8303	Advanced Geodatabase Systems	
ST 4313	Introduction to Spatial Statistics	
Geospatial Applications		
Choose two of the following:(Courses must satisfy more than one requirement)	t be different from the ones taken from the above categories. A course may not be used to	6
ABE 3513	The Global Positional System and Geographic Information Systems in Agriculture and Engineering	
ECE 3443	Signals and Systems	
ECE 4413	Digital Signal Processing	
ECE 8401	Current Topics in Remote Sensing	
ECE 8473	Digital Image Processing	
FO 4313/6313	Spatial Technologies in Natural Resources Management	
FO 8173	Advanced Spatial Technologies	
FO 8313	Spatial Statistics for Natural Resources	
FO 8353	Ecological Modeling in Natural Resources	
GR 3303	Survey of Geospatial Technologies	
GR 4313/6313	Advanced GIS	
GR 4323/6323	Cartographic Sciences	
GR 4343/6343	Advanced Remote Sensing in Geosciences	
GR 4353/6353	Geodatabase Design	
GR 4363/6363	Geographic Information Systems Programming	
PSS 4373/6373	Geospatial Agronomic Management	
PSS /ECE 4411/6411	Remote Sensing Seminar	
FO /GR 4411/6411	Remote Sensing Seminar	
ST 4313	Introduction to Spatial Statistics	
Total Hours		15

Leadership Studies Minor

The interdisciplinary minor in Leadership Studies provides academic and experiential knowledge and skills to prepare students for future leadership positions in communities, professions, and organizations. The Leadership Studies minor is open to Mississippi State University students in all Colleges, Schools, and majors. It requires 19 hours of approved coursework, including at least one experiential internship component. No more than two courses from the same academic Department may be applied to this minor. Students in the Leadership Studies minor must maintain a grade point average of 2.00 or higher overall and a grade point average of 2.50 or higher in courses applied to the minor. Students must earn a grade of C or higher in all minor courses.

Admission and Graduation Standards: Entering freshmen may declare a Leadership Studies minor in the first semester by securing approval of a minor program of studies as outlined herein. Qualified students, including incoming transfer students, may declare the minor during any subsequent semester. After the first semester of college, students must have a minimum overall GPA of 2.00 or higher (including all course work taken, not just in the minor) to enter or remain in the minor. To graduate with a Minor in Leadership Studies, students must meet all course requirements on their approved programs of minor study, must have an overall GPA of 2.00 or higher on all coursework attempted, and must have a 2.50 or higher GPA over all minor courses. Students must earn grades of C or higher in all courses applied to the Leadership Studies minor.

Curriculum Outline: Each student will select one core course in each of three core areas: Ethics, which are essential for any leader; Social Science, which studies leadership directly and provides knowledge of direct relevance to leadership; and Communication, which involves skills that are critically important for leaders. (For students in majors with little room for electives, judicious selection of the core courses in the Leadership Studies minor may simultaneously fulfill certain General Education requirements, College or School Core Curriculum, or Departmental Major requirements.) Each student will further select from an approved list, in consultation with his or her Leadership Studies minor advisor, at least three more courses that facilitate the student's goals. Finally, each student will register for a 1-hour (48 contact hours) experiential internship.

Area I: Ethics and Leadership

Choose one of the following:

PHI 1123	Introduction to Ethics	
MGT 3823	Socially Responsible Leadership	
Area II: Leadership and So	ocial Science	
Choose one of the following		3
MGT 3813	Organizational Behavior	
PSY 3623	Social Psychology	
PS 3013	Political Leadership	
PS /GE 2713	Introduction to Engineering and Public Policy	
Area III: Leadership and C	ommunication Skills	
Choose one of the following		3
CO 1003	Fundamentals of Public Speaking	
CO 3213	Small Group Communication	
CO 3803	Principles of Public Relations	
Area IV: Experiential intern	nship component	
EXL 1191	Leadership Studies Internship I	1
Area V: Electives		
Choose a minimum of three		9
they are not being used to doing so is not a requiren	te list of approved leadership electives. Courses listed in the Minor Core may also be taken as electives if o satisfy the minor core requirement. Students generally take all of their electives in the same college, but nent. Elective are best selected in consultation with the student's Leadership Studies Minor advisor to meet of the student. Electives are available in each college which allows this minor to be applicable to any major.	

For additional information, contact Robert Green, Chair, Leadership Studies Minor committee at green@bagley.msstate.edu