Office of Academic Affairs

Office: 3501 Lee Hall
662-325-3742
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 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. Students must earn a grade of C or higher in the two-semester senior capstone courses included in each of the concentrations.

General Education Requirements

English Composition

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	
Creative Discovery		
Any Gen Ed course		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
Quantitative Reasoning		
MA 1713	Calculus I	3
Natural Sciences		
2 lab based sciences required by Gen Ed		6

Major Core

Oral Communication		
CO 3213	Small Group Communication	3
Technical Writing		
CO 3223	Communication & Media Research Methods	3
Major Core		
MA 1723	Calculus II	3
MA 2733	Calculus III	3

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**

Choose a Concentration:

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 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

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	
ADS 3313	Introduction to Meat Science	
CFR		
SBP 2012	Introduction to Bioproduct Industries	
SBP 2123	Materials and Processing of Structural Bioproducts	
WFA 4313	Fisheries Management	
WFA 4613	Landscape Ecology	
FO 2213	Forest Measurements	
FO 2443	Essentials of Biotechnology	
FO 4113	Forest Resource Economics	
FO 4123	Forest Ecology	

Applied Courses

Choose 12 hours from the following:		12
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 Agriculture Economics	
ABE 2873	Land Surveying	
ABE 3513	The Global Positional System and Geographic Information Systems in Agriculture and Engineering	
ABE 4163	Agricultural and Off-Road Machinery Management	
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 Sustainable Bioproducts	
WFA 4123	Wildlife & Fisheries Biometrics	
WFA 4243	Wildlife Techniques	

WFA 4253	Application of Spatial Technologies to Wildlife and Fisheries Management	
FO 3015	Forest Description and Analysis	
FO 4213	Forest Biometrics	
FO 4313	Spatial Technologies in Natural Resources Management	
FO 4453	Remote Sensing Applications	
FO 4473	GIS for Natural Resource Management	
Capstone		
DSCI 4553	Data Science Capstone 1	3
DSCI 4663	Data Science Capstone 2	3

Business Information Systems Concentration

Fundamental Discipline Courses

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	
MKT 3013	Principles of Marketing	
MKT 3323		
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
Non-business course from any of the data science concentrations		3
Capstone		
BIS 4763	BIS Senior Seminar	3
BQA 4413	Business Forecasting and Predictive Analytics	3

Marketing and Supply Chain Concentration

Fundamental Discipline Courses

BQA 4423	Business Decision Analysis	3
MKT 3013	Principles of Marketing	3
MKT 3323		
Choose 1 course from the following:		3
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 3 courses from the following:		12
BIS 4533	Decision Support Systems	
MKT 4013		
MKT 4033		
MKT 4213	Internet Marketing	

MKT 4313		
MKT 4533	Marketing Research	

Students will register for one non-business course for which they meet the prerequisites from any of the data science concentrations.

Capstone

Choose 2 from the following:

MKT 4333		
BQA 4413	Business Forecasting and Predictive Analytics	
BQA 4000	Directed Individual Study in Business Quantitative Analysis	

Social Data Analytics Concentration

Fundamental Discipline Courses

Choose 9 hours from the following (but no more than 6 hours in any one field):		9
AN 1103	Introduction to Anthropology	
AN 1143	Introduction to Cultural Anthropology	
AN 1344	Biological Anthropology: The Making of Us	
CO 1403	Introduction to the Mass Media	
GR 2313	Maps and Remote Sensing	
PS 1313	Introduction to International Relations	
PS 1513	Comparative Government	
PS 2703	Introduction to Public Policy	
CRM 1003	Crime and Justice in America	
SO 1003	Introduction to Sociology	
SO 1103	Contemporary Social Problems	

Core Concentration Courses

Choose 15 hours from the following:		15
AN 3343	Introduction to Forensic Anthropology	
AN 4163	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 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 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	3
DSCI 4663	Data Science Capstone 2	3

Psychoinformatics Concentration

Fundamental Discipline Courses

PSY 1021	Careers in Psychology	1
PSY 3104	Introductory Psychological Statistics	4
PSY 3314	Experimental Psychology	4

Core Concentration Courses

Choose 9 hours from the following:		9
PSY 3343	Psychology of Learning	
PSY 3623	Social Psychology	
PSY 3713	Cognitive Psychology	
PSY 3803	Introduction to Developmental Psychology	
PSY 4403	Biological Psychology	
6 hours of 4000-level PSY courses		6

Capstone

PSY 4000	Directed Individual Study in Psychology	6

Statistical Modeling Concentration

Core Concentration Courses

Choose 24 hours from the following:		24
MA 2923	Introduction to Modern Scientific Computing	
MA 4133	Discrete Mathematics	
MA 4143	Graph Theory	
MA 4183	Mathematical Foundations of Machine Learning	
ST 4213	Nonparametric Methods	
ST 4243	Data Analysis I	
ST 4313	Introduction to Spatial Statistics	
ST 4543	Introduction to Mathematical Statistics I	

Capstone

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 3183	Systems Programming	3
CSE 4293	AI for Cybersecurity	3
CSE 4623	Computational Biology	3
CSE 4643	AI 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 Concentration

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

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

Sports Science Concentration

BIO 1004	Anatomy and Physiology [1]	4
EP 3233	Anatomical Kinesiology	3
EP 3304	Exercise Physiology	4
EP 4504	Mechanical Analysis of Movement	4
Human Performance Emphasis		3
Choose one of the following;		
PE 3163	Sport Psychology	
SS 4003	Philosophy of Sport & Physical Activity	
Core Concentration Courses		
PE 4283	Sport Biomechanics	3
PE 3313	Sport Physiology	3
EP 4153	Training Techniques for Exercise and Sport [2]	3
DSCI 4663	Data Science Capstone 2	3

[1]   If taken as a general education credit, an additional Sports Science course will be added.
[2]   Serves as requirement for DSCI 4553

Bachelor of Science in Healthcare Administration

The Bachelor of Science in Healthcare Administration is housed in the Office of the Provost and Executive Vice President (Academic Affairs) and courses are offered through the Meridian campus. The degree provides the specialized education needed to equip managers with the skills and knowledge needed to successfully navigate healthcare, finance, the specialized healthcare regulatory environment, and the nuances of management, marketing, operations, and informatics in a healthcare setting.

Graduates are prepared to serve as managers of smaller group practices and as mid-level managers in a wide variety of settings including hospitals, long term care facilities, pharmaceutical agencies, insurance companies, and medical equipment manufacturers. The curriculum also serves as a foundation for success in graduate-level academic programs in health administration and health informatics.

English

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 1613	Calculus for Business and Life Sciences I	3
or MA 1713	Calculus I	

Humanities

Any additional Gen Ed course		6

Social/Behavioral Sciences

EC 2113	Principles of Macroeconomics	3
EC 2123	Principles of Microeconomics	3

Major Core

HCA 3103	Health Information Systems	3
HCA 3113	Managing Healthcare Organizations	3
HCA 3123	Healthcare Economics	3
HCA 3133	Healthcare Logistics & Supply Chain Management	3
HCA 3203	Healthcare Marketing	3
HCA 3313	Introduction to the U.S. Healthcare System	3
HCA 3513	Human Resource Management in Healthcare	3
HCA 3813	Introduction to Healthcare Law and Regulation	3
HCA 4013	Healthcare Ethics	3
HCA 4103	Quality Management & Process Improvement in Healthcare	3
HCA 4123	Introduction to Health Informatics	3
HCA 4303	Financial Management for Healthcare	3
HCA 4404	Strategic Management for Healthcare	4
HCA 4443	Healthcare Internship	3
HCA 4803	Healthcare Policy	3

Business Courses

ACC 2013	Principles of Financial Accounting	3
BQA 3123	Business Statistical Methods II	3
FIN 3123	Financial Management	3

Writing Requirement

EN 3313	Writing for the Workplace	3
or MGT 3213	Organizational Communications	

Additional Math Requirement

BQA 2113	Business Statistical Methods I	3
or ST 2113	Introduction to Statistics	

Oral Communication Requirement

CO 1003	Fundamentals of Public Speaking	3
or CO 1013	Introduction to Communication	

Elective Courses

Restricted Electives (Must be upper division, either HCA or related courses, and approved by the departmental academic advisor or program director.)		5

Free Electives		21
Total Hours		**120**

Bachelor of Applied Science in Healthcare Administration

The Bachelor of Applied Science in Healthcare Administration program is offered to provide opportunities for individuals who have health-related A.A.S. degrees to gain the knowledge and skills needed to manage in clinical settings. Students entering this program are allowed to apply up to 45 hours of their A.A.S. technical coursework toward the B.A.S. degree.

English		
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		
BQA 2113	Business Statistical Methods I	3
or ST 2113	Introduction to Statistics	
or equivalent		
Humanities		
2 General Education Humanities courses		
		6
Social/Behavioral Sciences		
2 General Education Social Sciences courses (EC 2123 recommended)		
Major Core		
HCA 3103	Health Information Systems	3
HCA 3113	Managing Healthcare Organizations	3
HCA 3123	Healthcare Economics	3
HCA 3203	Healthcare Marketing	3
HCA 3313	Introduction to the U.S. Healthcare System	3
HCA 3513	Human Resource Management in Healthcare	3
HCA 3813	Introduction to Healthcare Law and Regulation	3
HCA 4013	Healthcare Ethics	3
HCA 4303	Financial Management for Healthcare	3
HCA 4803	Healthcare Policy	3
PCS Courses		
PCS 2111	Introduction to the Bachelor of Applied Science	1
PCS 3103	Professional Leadership Strategies	3
PCS 4112	Professional Success Strategies in Applied Fields	2
Additional Required Courses		
CO 1003	Fundamentals of Public Speaking	3
or CO 1013	Introduction to Communication	
EN 3313	Writing for the Workplace [*]	3
or MGT 3213	Organizational Communications	
FIN 3123	Financial Management	3
Technical Courses in Discipline		**45**
Total Hours		**120**

*   Meets Jr/Sr Writing Course requirement

Data Science Minor

The Data Science minor will provide students with an overview of data science as both a field of study and an industry sector. The minor draws form courses within the 64 hours of core Bachelor of Science in Data Science coursework. Students will complete four courses that provide: an introduction to the field, preparation in computer programming, an introduction to data visualization, and specific instruction in statistics. Three labs will provide hands-on experience in managing and using data throughout the data lifecycle as students work with real-world data. Because data science is usually practiced within a specific subject matter area, students are also encouraged to work within their major departments to identify a research methodology or analysis class that will provide subject matter-specific instruction in applying data science.

CSE 1284	Introduction to Computer Programming	4
DSCI 2012	Data Science Lab: Data Wrangling	2
DSCI 2013	Data Science Literacy	3
DSCI 4013	Data Visualization	3
MA/ST 3123	Introduction to Statistical Inference	3
Choose two of the following:		4
DSCI 2022	Data Science Lab: Cloud, High-Performance, and Quantum Computing	
DSCI 3012	Data Science Lab: Description, Analysis, and Inference	
DSCI 3022	Data Science Lab: Data Visualization	
DSCI 3032	Data Science Lab: Artificial Intelligence	
Total Hours		**19**

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 Geospatial Coursework		
Choose one of the following:		3
FO 4313/6313	Spatial Technologies in Natural Resources Management	
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 be different from the ones taken from the above categories. A course may not be used to satisfy more than one requirement)		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:		3
PHI 1123	Introduction to Ethics	
MGT 3823	Socially Responsible Leadership	
Area II: Leadership and Social 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 Communication 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 internship component		
EXL 1191	Leadership Studies Internship I	1
Area V: Electives		
Choose a minimum of three:		9
See advisor for a complete list of approved leadership electives. Courses listed in the Minor Core may also be taken as electives if they are not being used to satisfy the minor core requirement. Students generally take all of their electives in the same college, but doing so is not a requirement. Elective are best selected in consultation with the student's Leadership Studies Minor advisor to meet the goals and objectives 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