

# METEOROLOGY (B.S.)

The Jackson State University's Atmospheric Science/ Meteorology Program consists of several significant components including basic curricula, academic support, research, and outreach. When integrated together, these components provide a supportive framework for the preparation of minority atmospheric scientists. Programmatic emphases include a strong commitment to student learning and professional preparation, increasing the number of African American atmospheric scientists, increasing the number of African American graduate students in atmospheric science, and an expansion of research and development with regard to basic and applied research, computer-related training strategies, and outreach and cooperative efforts. The Bachelor of Science in Meteorology program's primary objective is to prepare students for careers in meteorology and to prepare students for graduate study in meteorology or in related fields. Alternative careers could also include teaching, medicine, law (especially intellectual property or patent law), science writing, history of science, philosophy of science, science policy, energy policy, government, or management in technical fields.

## Major Requirements

Code	Title	Hours
MET 200 & METL 200	INTRO TO METEOROLOGY and ATMOSPHERIC PROC & PTTRNS LAB	4
MET 210	CLIMATOLOGY	3
METL 219	WEATHER ANALYS/FORECASTG LAB I	1
MET 270	COMPUTNAL DATA ANLYS VISUALI	3
METL 299	WEATHER ANALS/FORECASTG LAB II	1
MET 303 & METL 303	MEASUREMENTS & OBSERVATIONS and MEASUREMENTS & OBSRVTNS LAB	4
MET 311	GENERAL METEOROLOGY	3
MET 321	ATMOSPHERIC THERMODYNAMICS	3
MET 341	DYNAMIC METEOROLOGY	3
MET 411	PHYSICAL METEOROLOGY	3
MET 421 & METL 421	INTRO TO SYN METEOROLOGY and SYNOPTIC METEOROLOGY LAB	5
METL 399	WEATHER ANAL/FORECASTG LAB III	1
MET 431	NUMERICAL METHODS	3
MET 472	RES METHD IN METEOROLOGY	1
MET 499	SEMINAR IN ATMOSPHERIC SCIENCE	1
SCI 331	INTRO TO GIS & REMOTE SENSING	3
MET Elective		6
PHY 211 & PHYL 211	General Physics I and GENERAL PHYSICS LAB I	4
PHY 212 & PHYL 212	General Physics II and GENERAL PHYSICS LAB II	4
MATH 242	CALCULUS II WITH LABORATORY	3
MATH 243	CALCULUS III WITH LABORATORY	3
MATH 244	CALCULUS IV WITH LABORATORY	3
MATH 355	PROBABILITY&STATISTICS I	3
MATH 368	DIFFERENTIAL EQUATIONS	3
<b>Total Hours</b>		<b>71</b>

## Curriculum Map

Course	Title	Hours
<b>Freshman</b>		
<b>Spring</b>		
CHEM 142 & CHML 142	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LAB	4
ENG 105 or ENG 112	COMPOSITION II or COMPOSITION	3
MET 210	CLIMATOLOGY	3
METL 219	WEATHER ANALYS/FORECASTG LAB I	1
MET 270	COMPUTNAL DATA ANLYS VISUALI	3
Pathway Option		3
<b>Hours</b>		<b>17</b>
<b>Fall</b>		
ENG 104 or ENG 103 or ENG 111	COMPOSITION I or English Composition I with Co-requisite Support or COMPOSITION & LITERATURE FOR L	3
CHEM 141 & CHML 141	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB	4
MATH 241	CALCULUS I WITH LABORATORY	3
MET 200 & METL 200	INTRO TO METEOROLOGY and ATMOSPHERIC PROC & PTTRNS LAB	4
UNIV 100	UNIVERSITY SUCCESS	2
<b>Hours</b>		<b>16</b>
<b>Sophomore</b>		
<b>Spring</b>		
MATH 243	CALCULUS III WITH LABORATORY	3
MET 311	GENERAL METEOROLOGY	3
METL 299	WEATHER ANALYS/FORECASTG LAB II	1
PHY 212 & PHYL 212	General Physics II and GENERAL PHYSICS LAB II	4
UNIV 200		1
Pathway Option		3
<b>Hours</b>		<b>15</b>
<b>Fall</b>		
MATH 242	CALCULUS II WITH LABORATORY	3
MET 303 & METL 303	MEASUREMENTS & OBSERVATIONS and MEASUREMENTS & OBSRVTNS LAB	4
PHY 211 & PHYL 211	General Physics I and GENERAL PHYSICS LAB I	4
Humanities & Fine Arts Option		3
Pathway Option		3
<b>Hours</b>		<b>17</b>
<b>Junior</b>		
<b>Spring</b>		
MATH 355	PROBABILITY&STATISTICS I	3
MET 341	DYNAMIC METEOROLOGY	3
Social & Behavioral Science		3
MET 399 Weather Analysis & Forecasting Lab		1
Meteorology Elective		3
Restricted Elective		3
<b>Hours</b>		<b>16</b>
<b>Fall</b>		
MATH 244	CALCULUS IV WITH LABORATORY	3
MET 321	ATMOSPHERIC THERMODYNAMICS	3
METL 399	WEATHER ANAL/FORECASTG LAB III	1
Humanities & Fine Arts Option		3
Social & Behavioral Science Option		3
Meteorology Elective		3
<b>Hours</b>		<b>16</b>

Senior		
Spring		
MET 431	NUMERICAL METHODS	3
MET 499	SEMINAR IN ATMOSPHERIC SCIENCE	1
SCI 331	INTRO TO GIS & REMOTE SENSING	3
Restricted Elective		3
Restricted Elective		3
<b>Hours</b>		<b>13</b>
Fall		
MATH 368	DIFFERENTIAL EQUATIONS	3
MET 411	PHYSICAL METEOROLOGY	3
MET 421 & METL 421	INTRO TO SYN METEOROLOGY and SYNOPTIC METEOROLOGY LAB	5
MET 472	RES METHD IN METEOROLOGY	1
Humanities & Fine Arts Option		3
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>125</b>

Students completing a BS degree in Meteorology will exhibit effective communication skills and be committed to ethical scientific practices

#### Notes:

- Candidates that transfer 12 or more hours of college credit are exempt from UNIV 100 UNIVERSITY SUCCESS; however, the student must take 2 hours of general electives to replace the UNIV course
- Online Graduation Clearance (**to be completed during the graduating semester only**).

#### Meteorology Restricted Elective Options:

Code	Title	Hours
Any ITEM, ITHM, and MATH course above 244		3
ITEM 301	PRINCIPLES OF EMERGENCY MNGT	3
ITEM 303	COMMUNITY EMERGENCY RESPN TEAM	3
ITEM 401	APP OF EMRGNCY MNGT CMPTR TEC	3
ITHM 300	PRIN OF HAZARDOUS MATERLS MNGT	3
ITHM 405	RISK ASSESSMENT	3
ITMA 410	1ST LINE SUPRVSN & FRMAN	3
CSC 118	COMPUTER SCIENCE I	3
CSC 119	COMPUTER SCIENCE II	3
CSC 215	DATA ANALYTICS	3
CSC 228	DATA STRUCTURES & ALGORITHMS	3
CSC 235	SECURITY AWARENESS	3
CSC 245	INTRODUCTION TO BIOINFORMATICS	3
CSC 330	DATABASE SYSTEMS	3

## Student Learning Outcomes

#### Student Learning Outcome 1

Students completing a BS degree in Meteorology will apply mathematics and science knowledge to solve problems that require critical and analytical thinking.

#### Student Learning Outcome 2

Students completing a BS degree in Meteorology will have a broad knowledge of global perspectives and obtain experimental learning within the international scientific community

#### Student Learning Outcome 3

Students completing a BS degree in Meteorology will be prepared to enter the workforce and/or engage in advanced studies and research.

#### Student Learning Outcome 4