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:** Geosciences

Contact Person: John Rodgers **Mail Stop:** 9537 **E-mail:** jcr100@msstate.edu

Nature of Change: New Program **Date Initiated:** October 9, 2024

Current Degree (BS, MS, etc.):

Current Major:

Current Concentration(s):

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

*Gulf Coast campus for Bagley College of Engineering only

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

Effective Date:

Semester	**Year**
Fall	2025

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

Proposed Major: Weather and Environmental Science

Proposed Concentration(s):

Proposed Campus(es)

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

*Gulf Coast campus for Bagley College of Engineering o

Summary of Proposed Changes:

The proposed online Bachelor of Applied Science degree in Weather and Environmental Sci focuses on the application of weather and environmental geosciences towards military operations. The degree will transfer weather courses taught at military institutions, such as Keesler Air Force Base, and apply these towards the undergraduate BAS degree. The curriculum consists of A&S core, Geosciences courses, military weather courses.

Approved:	Date:
John Rodgers, Professor and Head — Digitally signed by John Rodgers, Professor and Head Date: 2024.10.09 10:29:38 -05'00'	10/09/2024
Department Head	
	12/10/2024
Director of Academic Quality	
	12/9/2024
Chair, College or School Curriculum Committee	
	12/10/24
Dean of College or School	
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council (if applicable)	
Chair, Deans Council	

FOR OIRE USE ONLY

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

OIRE Representative Initials _____

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:** Weather and Environmental Sciences	
The Bachelor of Applied Science in Weather and Environmental Sciences major integrates military academic credits in the areas of weather and environmental science, pertinent military experiences, and weather and environmental courses from Mississippi State University to deliver a comprehensive education in weather forecasting, climate analysis, and human-environmental interactions. Graduates will be well-equipped for positions in military weather operations, possessing the essential skills and knowledge to offer crucial meteorological and climatological support for military planning and operations.	
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	**3** **3**
Fine Arts: A&S Core	**3**
Natural Sciences: • GR 1133/GR 1131 Weather and Climate, Weather and Climate Laboratory • A&S Core	**4** **4**
Quantitative Reasoning: A&S core	**3**
Humanities: History – A&S core Literature – A&S core	**3** **3**
Social/Behavioral Sciences: GR 1123 Introduction to World Geography A&S core – cannot be GR	**3** **3**
Foreign Language: Foreign Language I Foreign Language II	**3** **3**
Oral Communication: A&S Core	**3**
Jr/Sr Writing : GG 4333 Geowriting	**3**

Major Core Courses:
PCS 4112 Professional Success Strategies in Applied Fields
• **Human- Environmental Interactions**
  ○ GG 3603 Introduction to Oceanography
  ○ GG 3613 Water Resources
	2
	
	3
	3

PROPOSED New Degree	
Degree: Bachelor of Applied Science **Major:** Weather and Environmental Sciences	
o GR 3113 Conservation of Natural Resources o GR 4813 Natural Hazards • **Advanced Weather Forecasting** o GR 4443 Weather Prediction 1 o GR 4453 Weather Prediction 2 o GR 4913 Thermodynamic Meteorology o GR 4923 Severe Weather • **Climatology** o GR 4613 Applied Climatology • **Geosciences Elective** o Any GR or GG course 3000-level or higher	**3** **3** **3** **3** **3** **3** **3** **3**
Technical Courses in the Discipline: Technical and/or military courses transferred from either a military institution or community colleges. Transferred courses should prepare students for the following: • **Meteorological Data Analysis:** demonstrate proficiency in collecting, analyzing, and interpreting meteorological data using specialized instrumentation, software, and forecasting techniques relevant to military operations. • **Communication of Weather Information:** will apply their knowledge to assess and communicate weather-related risks and opportunities for mission planning, including understanding the implications of weather conditions on military equipment, logistics, troop movements, aviation operations, tactical strategies, and safety protocols. • **Operational Support:** will provide operational support by effectively communicating weather-related information to military personnel, enabling informed decision-making during various military activities, exercises, and missions. • **Adherence to Military Standards:** will adhere to military protocols, ethics, and security measures while handling and disseminating meteorological information, ensuring compliance with classified data handling and operational security requirements. • **Specific courses, choose 45 hours from the following (from Community College of Air Force, Weather Forecast Apprentice Curriculum, Keesler Air Force Base)**	**45**
Total Hours	**121**

JUSTIFICATION

The proposed Bachelor of Applied Science (BAS) in Weather and Environmental Sciences will create a unique pathway for military personnel to integrate their academic credits in weather and environmental science, relevant military experiences, and specialized coursework from Keesler Air Force Base to Mississippi State University. This degree will focus on areas such as weather forecasting, climate analysis, and human-environment interactions, equipping graduates with essential skills for roles in military weather operations and future careers in the civilian workforce after serving.

Keesler Air Force Base in Biloxi, MS, serves as a key hub for military weather training, aligning closely with the meteorology programs offered by MSU's Department of Geosciences. This proposal envisions a clear pathway for airmen to transfer their weather training from Keesler AFB into an undergraduate degree at MSU. Establishing this degree will foster a strategic partnership between the military and our academic institution, benefiting both parties significantly.

From MSU's perspective, this initiative will increase enrollment in online meteorology courses and reinforce our status as a military-friendly institution. For the military, it will offer airmen the opportunity to attain an

undergraduate degree that supports both their career progression within the armed forces and their transition to civilian roles upon leaving the military. Strengthening the relationship between Keesler AFB and MSU also aligns with the state government's objective of enhancing ties between the military and the state of Mississippi.

Importantly, this BAS degree aligns with the career progression for airmen aspiring to the rank of "Weather and Environmental Science Officer" in the Air Force. By establishing a program specifically tailored to airmen in weather and environmental sciences, MSU's College of Arts & Sciences will address a crucial need within the military while preparing graduates for impactful, in-demand careers in the broader civilian workforce.
This proposal is not just about creating an academic pathway—it is a commitment to support the military community and contribute to their professional growth and success.

JUSTIFICATION FOR CAMPUS 5 OFFERING:

This Bachelor of Applied Science (BAS) degree is well-suited to be offered entirely online, particularly as it is designed to accommodate active-duty military personnel who may not have the ability to attend classes on the Starkville campus. The Department of Geosciences has extensive experience in delivering high-quality online education. Since the 1990s, we have successfully offered online programs, including two Master of Science degrees and one Bachelor of Science degree. This longstanding commitment to online education has provided us with the knowledge and expertise necessary to effectively deliver engaging and rigorous academic content in a virtual format.

Additionally, all the department courses listed in the BAS curriculum have already been approved and are currently being taught online by Geosciences. This ensures a smooth transition to the full online offering of the program, with established course structures and proven success in online instruction. Our experience and infrastructure make us well-prepared to meet the needs of military students and other non-traditional learners, ensuring that they receive the same high level of education as our on-campus students.

STUDENT LEARNING OUTCOMES AND ASSESSMENT

The overarching goal of this proposed degree is to integrates military academic credits, pertinent military experiences, and weather and environmental courses from Mississippi State University to deliver a comprehensive education in weather forecasting, climate analysis, and human-environmental interactions. Graduates will be well-equipped for positions in military weather operations, possessing the essential skills and knowledge to offer crucial meteorological, environmental, and climatological support for military planning and operations.

Program Level Outcome 1, Comprehension of Weather Knowledge for Military: Technical and military courses transferred from either a military institution (e.g. Keesler Air Force Base) or military community college (e.g. Community College of the Air Force/Air University). Mississippi State University will assume that if the student completed and passed their military course training, they will have met this learning outcome.

1. **Meteorological Data Analysis:** demonstrate proficiency in collecting, analyzing, and interpreting meteorological data using specialized instrumentation, software, and forecasting techniques relevant to military operations.
2. **Communication of Weather Information:** will apply their knowledge to assess and communicate weather-related risks and opportunities for mission planning, including understanding the implications of weather conditions on military equipment, logistics, troop movements, aviation operations, tactical strategies, and safety protocols.
3. **Operational Support:** will provide operational support by effectively communicating weather-related information to military personnel, enabling informed decision-making during various military activities, exercises, and missions.
4. **Adherence to Military Standards:** will adhere to military protocols, ethics, and security measures while handling and disseminating meteorological information, ensuring compliance with classified data handling and operational security requirements.

Program Level Outcome 2, Comprehension of Basic Human-Environmental Interactions: Graduates will be able to explain current and historical events related to disasters and be able to describe basic earth system processes, such as the hydrosphere, biosphere, and lithosphere.

1) **GR 4813 Natural Hazards** – 75% of the students will score 75% or higher on the final exam (describing interactions of earth and atmospheric processes with society; for example, causes of earthquakes, volcanoes, serve weather, floods, droughts, and wildfire).
2) **GG 3613 Water Resources** – 75% of the students will score 75% or higher on the water resources comprehensive final exam (explaining the basics of hydrologic cycle, freshwater reservoirs, human impact on water).
3) **GR 3113 Conservation of Natural Resources** – 75% or higher on the final comprehensive exam that covers content related to current and historical environmental issues with the hydrosphere, biosphere, and lithosphere.

Program Level Outcome 3, Application of Climate: Graduates will demonstrate critical thinking by analyzing and explaining the impacts of climate on various sectors, including agriculture, industry, and the economy, and by proposing solutions to climate-related challenges in these areas.

1) **GR 4613 Applied Climatology** – at least 75% of students will score 80% or higher on the last laboratory exercise that relates to solving climate questions (drought, agriculture, industry) using real data. related to radiance, reflectivity, and classification of remotely sensed imagery.

Program Level Outcome 4, Application of Fundamental Meteorology Knowledge: Graduates will be capable of applying their fundamental knowledge and skills in atmospheric sciences and climatology to real-world situations, demonstrating the ability to make accurate forecasts for general audiences.

1) **GR 4453 Weather Predication 2** – (a)at least 75% of students will score 80% or higher on the final exam demonstrating their ability to explain weather forecasting techniques; (b) 75% of students will score 85% or higher on the last forecasting homework exercise of the semester, which demonstrates their ability to generate accurate forecasts.
2) **GR 4913 Thermodynamic Meteorology** – at least 75% of the students will score 75% or higher on the final exam that covers problems related to atmospheric physics, especially energy transfer.

Program Level Outcome 5, Critical Thinking of Specialized Earth System Processes. Graduates will be able to identify and explain advanced earth and atmospheric phenomena within a specific area or specific field of their choosing, including oceanography, coastal sciences, study aboard, community engaged learning, or forensic geosciences.

1) At least 75% of students will score 75% or higher on either the final course project or the final exam, depending on which geoscience elective is taken. Meeting this criterion will be used to evaluate mastery of the course concepts, and thus, demonstrate proficiency describing earth and atmospheric processes within a specialized situation.

REQUIRED QUESTIONS

1) Will this program change meet local, state, regional, and national educational and cultural needs? If so, please describe.

Yes, the proposed Bachelor of Applied Science (BAS) in Weather and Environmental Sciences will meet important educational and cultural needs at local, state, regional, and national levels, particularly in relation to the military community.

This program is designed to provide a structured pathway for military personnel, specifically those with credits in meteorology, to either get promoted or to transition into civilian roles within weather, climate, and environmental sciences. The alignment of the degree name with the military rank of "Weather and Environmental Science Officer" reflects a clear commitment to supporting airmen as they prepare for careers both within and outside the military. By offering a way to transfer military credits into a recognized bachelor's degree, the program will facilitate the transition of skilled individuals from military service into sectors where their expertise is critically needed.

The educational need for weather and environmental professionals is significant due to the growing concerns surrounding climate change, disaster preparedness, and environmental sustainability. This program would contribute to filling the demand for trained professionals in both the public and private sectors, including agencies like the National Weather Service, environmental consulting firms, and governmental organizations focused on environmental protection.

At a national level, supporting military personnel as they transition into civilian careers not only benefits individuals but also strengthens workforce readiness and bolsters public safety efforts related to weather and climate issues. Additionally, by offering this program, the university will help create more opportunities for veterans to contribute their skills and experience to fields that are vital for environmental monitoring and sustainability.

2) Will this program change result in duplication in the System? If so, please describe.

We are not aware of any other Bachelor of Applied Science (BAS) programs within the system that duplicate this degree. While there is some similarity to the Broadcast and Operational Meteorology Program (BOMP) offered by the Department of Geosciences, there are several important distinctions between the two programs:

1. The BAS places a stronger emphasis on environmental science, whereas the BOMP is more focused on pure meteorology.
2. The BAS allows for the transfer of up to 45 technical hours from military coursework, specifically geared toward supporting weather forecasting for military operations, particularly in aviation contexts. This is a unique feature that sets the BAS apart from more traditional meteorology programs.
3. The BAS is designed to be less quantitatively intensive and does not require the same level of advanced mathematics as the BOMP. This makes the program more accessible to students whose background may not be as math-focused.
4. While the BOMP is tailored more towards preparing students for careers as TV meteorologists, the BAS is designed as a more general degree. It prepares students for a broader range of roles related to weather and environmental science, including military, government, and private sector positions.

In summary, while there are some similarities between the programs, the Bachelor of Applied Science in Weather and Environmental Sciences is distinct in its focus, structure, and target student population, and it does not duplicate any existing programs within the system.

3) Will the program change/advance student diversity within the discipline? If so, please describe. Yes, see below:

Yes, this program will advance student diversity within the discipline of weather and environmental sciences. The proposed Bachelor of Applied Science (BAS) in Weather and Environmental Sciences is specifically designed to accommodate the unique needs of military personnel, a group that is highly diverse in terms of race, ethnicity, gender, and cultural backgrounds. By offering a program that allows for the transfer of military credits, we are providing opportunities for individuals from a wide variety of backgrounds to access higher education and transition into civilian careers.

The military has long been recognized as one of the most diverse institutions in the United States, and this program will help further those diversity objectives by facilitating career advancement for service members who may not have otherwise had access to this type of specialized education. Additionally, the broad applicability of the degree—spanning roles in meteorology, environmental science, and climate-related fields—ensures that students from diverse socioeconomic and cultural backgrounds can pursue careers in high-demand sectors that benefit both the public and private domains.

Incorporating the military's diverse talent pool into the academic and professional spheres of weather and environmental sciences will not only enrich the discipline but also help address national goals related to workforce diversity. By supporting this pathway for service members, we are also contributing to a more inclusive and representative workforce in fields that are vital to understanding and addressing pressing environmental and climate challenges.

4) Will the program change result in an increase in the potential placement of graduates in MS, the Southeast, and the U.S.? If so, please describe.

Yes, the proposed Bachelor of Applied Science (BAS) in Weather and Environmental Sciences is expected to increase the potential placement of graduates in Mississippi, the Southeast, and across the U.S. There is growing demand for professionals skilled in weather forecasting, climate science, and environmental management, particularly as these fields become more critical in addressing climate change, disaster preparedness, and sustainable resource management. Graduates of this program will be well-positioned for careers in both the public and private sectors, including employment with government agencies such as the National Weather Service, environmental consulting firms, and organizations involved in aviation, agriculture, and defense.

Moreover, by providing a pathway for military personnel to transfer credits and earn a degree that aligns with their specialized training, this program will help fill key roles in sectors that value the unique experience and expertise of veterans. Mississippi and the broader Southeastern region, with their focus on agriculture, coastal management, and disaster resilience, will particularly benefit from professionals with the skills and knowledge offered by this degree. Nationally, the integration of weather and environmental science expertise is critical to supporting industries and initiatives focused on environmental protection and climate adaptation, further increasing job placement opportunities for graduates.

5) Will the program change result in an increase in the potential salary of graduates in MS, the Southeast, and the U.S? If so, please describe.

Yes, the proposed Bachelor of Applied Science (BAS) in Weather and Environmental Sciences will likely lead to an increase in the potential salary of graduates in Mississippi, the Southeast, and across the U.S. The combination of meteorology, environmental science, and military experience prepares graduates for high-demand roles in weather forecasting, environmental monitoring, disaster preparedness, and aviation-related fields, which typically offer competitive salaries. Graduates entering civilian careers can find employment in industries such as environmental consulting, government agencies, and private sector organizations, where expertise in climate science and environmental sustainability is increasingly valuable.

For military personnel, this degree also provides an opportunity for career advancement and promotion within the military, as it aligns with the skills required for higher-ranking positions such as Weather and Environmental Science Officer. Upon transitioning out of the military, graduates will have the qualifications necessary to secure well-paying civilian jobs in meteorology and environmental science sectors, further enhancing their earning potential. This program not only opens up career pathways but also ensures that graduates are equipped to command competitive salaries in a growing field that values both their technical expertise and military experience.

PROPOSED 4-LETTER ABBREVIATION: WXEN

EFFECTIVE DATE: Fall 2025

CIP NUMBER: 40.0401 Atmospheric Sciences and Meteorology, General

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

October 9, 2024

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

Mississippi State University

RE: Department of Geosciences – Bachelor of Applied Science – Weather and the Environment

Dear Curriculum Committee,

The Department of Geosciences Curriculum Committee has reviewed and supports the proposed addition of an online Bachelor of Applied Science (BAS) degree in Weather and the Environment to the department's curriculum. The addition of this degree will diversify our program by offering a degree specific to the application of weather and environmental geosciences towards military operations. The degree will transfer weather and environmental courses taken at military institutions and apply these towards an undergraduate degree. The degree program has been updated since past submission.

We fully support the addition of an online BAS degree in Weather and the Environment to undergraduate curriculum. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully,

Brian Williams — Digitally signed by Brian Williams Date: 2024.10.10 10:46:43 -04'00'

Brian Williams (Committee Member)

Andrew Mercer — Digitally signed by Andrew Mercer Date: 2024.10.09 17:13:42 -05'00'

Andrew Mercer (Committee Member)

Boniface O Fosu — Digitally signed by Boniface O Fosu Date: 2024.10.10 09:17:44 -05'00'

Boniface Fosu (Committee Member)

Varun Paul — Digitally signed by Varun Paul Date: 2024.10.10 18:24:06 -05'00'

Varun Paul (Committee Member)

Sarah Lalk, PhD — Digitally signed by Sarah Lalk, PhD Date: 2024.10.11 07:42:56 -05'00'

Sarah Lalk (Committee Chair)

CC: John Rodgers, Geosciences Department Head

MISSISSIPPI STATE UNIVERSITY™
COLLEGE OF PROFESSIONAL AND CONTINUING STUDIES

February 27, 2024

To: University Committee on Courses and Curricula

This letter is to express support of the College of Professional and Continuing Studies for the inclusion of the following course within the Bachelor of Applied Science – Weather and Environment Science program.

- PCS 4112 – Professional Success Strategies in Applied Fields

We look forward to supporting this program through recruitment activities as well. This BAS is expected to be beneficial to several student populations.

If you have any questions, please feel free to contact me.

Sincerely,

Susan D. Seal

Susan D. Seal

Dean
College of Professional and Continuing Studies

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:	Weather and Environmental Sciences
Name of degree(s) to be awarded:	Bachelor of Applied Science
Six-digit CIP code:	40.0401
Total credit-hour requirement to earn the degree:	121
Responsible academic unit:	Department of Geosciences
Institutional contact:	John Rodgers, Professor and Head, (662) 325-1393, rodgers@geosci.msstate.edu
Phone:	
Email:	
SACSCOC Substantive Change:	☒ Program proposed **IS NOT** a substantive change. ☐ Program proposed **IS** a substantive change.
Incremental, five-year cost of implementation:	$160,000.00
Incremental, five-year per student cost of implementation:	$1428.57
Potential five-year, new revenue:	$659,193.5
Potential new, five-year revenue per student:	$5,885.66
Will it attract new students to the university?	☒ Yes ☐ No

List any institutions within the State offering similar programs:	0

Number of students expected to enroll in first 5 years:		Number of students expected to graduate in first 5 years:	
Year 1	15	Year 1	0
Year 2	18	Year 2	0
Year 3	22	Year 3	12
Year 4	26	Year 4	14
Year 5	31	Year 5	17
Total	112	Total	43

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

The Bachelor of Applied Science in Weather and Environmental Sciences major integrates military academic credits in the areas of weather and environmental science, pertinent military experiences, and weather and environmental courses from Mississippi State University to deliver a comprehensive education in weather forecasting, climate analysis, and human-environmental interactions. Graduates will be well-equipped for positions in military weather operations, possessing the essential skills and knowledge to offer crucial meteorological and climatological support for military planning and operations.

The Bachelor of Applied Science (BAS) program distinguishes itself from traditional Bachelor of Science (BS) offerings by prioritizing the practical application of knowledge, equipping students with specialized skills and competencies directly relevant to today's dynamic workforce. Through a robust curriculum grounded in real-world scenarios, industry partnerships, and experiential learning opportunities, the BAS empowers learners to seamlessly integrate theoretical insights with hands-on expertise, fostering a pathway to immediate career advancement and long-term success in their chosen fields.

NEW ACADEMIC DEGREE PROGRAM PROPOSAL

Institutional Request Form – Appendix 8

(Submit in PDF format with signatures.)

In addition, the BAS program often serves as an accessible pathway for community college graduates holding Associate of Applied Science (AAS) or Associate of Applied Technology (AAT) degrees. Recognizing the value of prior technical education and professional experience, the BAS program offers seamless transfer opportunities, allowing individuals to build upon their foundational knowledge and skills, ultimately enabling a smoother transition into advanced coursework and specialized career tracks within their chosen fields.

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 Bachelor of Science in Weather and Environmental Sciences will be administered through a Program Director, department head, and faculty in the Department of Geosciences in the College of Arts and Science. The specific responsibility for the design and review of the curriculum will be the purview of the Program Director, Department Head, and Geosciences faculty members. Degree and course additions, modifications, and deletions are subject to approval by the larger faculty (University Course and Curriculum Committee).

2 Describe the educational objectives of the degree program including the specific objectives of any concentrations, emphases, options, specializations, tracks, etc.

The Bachelor of Applied Science in Weather and Environmental Sciences is designed for students who wish to enhance their skills in the management of weather and environmental science processes. The Weather and Environmental Sciences program is designed to provide students a comprehensive education that builds upon previous postsecondary coursework within the field and expand that knowledge and experience in the areas of comprehensive education in weather forecasting, climate analysis, spatial analysis, and human-environmental interactions.

- Graduates will demonstrate proficiency in collecting, analyzing, interpreting, and communicating meteorological data and meteorological phenomena.
- Graduates will be able to explain current and historical events related to disasters and be able to describe basic earth system processes, such as the hydrosphere, biosphere, and lithosphere.
- Graduates will demonstrate critical thinking by analyzing and explaining the impacts of climate on various sectors, including agriculture, industry, and the economy, and by proposing solutions to climate-related challenges in these areas.
- Graduates will be capable of applying their fundamental knowledge and skills in atmospheric sciences and climatology to real-world situations, demonstrating the ability to make accurate forecasts for general audiences.
- Graduates will be able to identify and explain advanced earth and atmospheric phenomena within a specific area or specific field of their choosing, including oceanography, coastal sciences, study aboard, community engaged learning, or forensic geosciences.

3 Describe any special admission requirements for the degree program including any articulation agreements that have been negotiated or planned.

Students applying for admission to the program must have an AAS or AAT degree in a weather and environmental science-related discipline or have completed the meteorological curriculum at a military institution, and they must have a cumulative GPA of at least 2.00 at the time of admission. The Department of Geosciences reserves the right to evaluate students for special exceptions if the applicants have met all of the technical course requirements and most of the general education requirements of the transfer degree while still maintaining the GPA requirement. While students from any qualifying institution are welcome, MSU has partnership agreements with all community colleges within the state of Mississippi, as well as others in the states of Alabama, Louisiana, Tennessee, Texas, and Indiana at the time of the submission of this proposal. This partnership for the Bachelor of Applied Science program signifies that the administration, faculty, and counselors from these institutions are committed to communicating with students the availability of the BAS majors at MSU as well as ensuring the transfer process is seamless.

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.

There is no professional accreditation associated with this degree. The new degree program also does not represent a substantive change according to SACSCOC guidelines.

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 and College of Arts & Sciences core (A&S Core) curriculum (44 hours), major coursework in Weather and Environmental Sciences technology (30 hours), BAS Capstone course (PCS 4112, 2 hours), and up to 45 hours credit for work in the technical discipline associated with the student's AAS degree for a total 121 hours required for student to complete in the Bachelor of Applied Science in Weather and Environmental Sciences program.

UNIVERSITY CORE CURRICULUM – 44 HOURS
English (General Education) – 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 Art (General Education) – 3 hours
A&S Core

Natural Sciences – 8 hours
- GR 1133/GR 1131 Weather and Climate and Weather and Climate Lab
- A&S Core

Quantitative Reasoning (General Education) – 3 hours
A&S Core

Humanities (General Education) – 6 hours
History – A&S Core
Literature – A&S Core

Social/Behavioral Sciences (General Education) – 6 hours
GR 1123 Introduction to World Geography
A&S Core – cannot be from GR

Foreign Language – 6 hours
Foreign Language I
Foreign Language II

Oral Communications – 3 hours
A&S Core

Jr/Sr Writing – 3 hours
GG 4333

MAJOR CORE COURSES –32 HOURS
PCS 4112 Professional Success Strategies in Applied Fields

Human-Environmental Interactions
GG 3603 Introduction to Oceanography
GG 3613 Water Resources
GR 3113 Conservation of Natural Resources
GR 4813 Natural Hazards

Advanced Weather Forecasting:
GR 4443 Weather Prediction 1
GR 4453 Weather Prediction 2
GR 4913 Thermodynamic Meteorology
GR 4923 Severe Weather

Climatology
GR 4613 Applied Climatology

Geosciences Elective
Any GR or GG course 3000-level or higher

TECHNICAL COURSES – 45 HOURS
TOTAL HOURS – 121 HOURS

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.

The below required courses will continue to be delivered primarily by existing faculty or approved adjunct faculty in the Department of Geosciences in the College of Arts and Science:

- GG 3603 Introduction to Oceanography
- GG 3613 Water Resources
- GR 3113 Conservation of Natural Resources
- GR 4813 Natural Hazards
- GR 4443 Weather Prediction 1
- GR 4453 Weather Prediction 2
- GR 4613 Applied Climatology
- GR 4913 Thermodynamic Meteorology
- GR 4923 Severe Weather

The below required course will be taught by approved faculty in the College of Professional and Continuing Studies:
- 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 and more from the Mississippi State Library are relevant to the BAS in Construction Technology program:

- Academic Search Premier
- CloudSource+ and CloudSourceOA that search multiple databases, journal publishers, index open access scholarly journal articles, open textbooks, and open education resources
- eBooks from EBSCO
- ERIC
- Over 2.3 million volumes (MSU Library's online catalog); Over 11,000 print volumes in the local collections at MSU Meridian
- 200,000 electronic journals in an extraordinary range of subjects and full-text content
- Access to electronic journals sufficient to meet the needs of baccalaureate studies.
- Discipline-based research guides aligned to applied science majors
- Access to virtual training opportunities through the library's MaxxSouth Digital Media Center (DMC) (ex.: Excel, Adobe InDesign, CAD, and other technology) online.
- ILL and document delivery services for obtaining materials not owned by MSU Libraries.

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.

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 Center for Distance Education utilizes a variety of measures to assess student learning that will also be used to help the department evaluate the program's effectiveness.
- The success of the program will be determined by the number of adult learner students who enroll in the degree program versus the number of students that successfully complete the degree during the initial five-year period of the degree program.

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

We expect to incrementally enroll students in the Bachelor of Applied Science in Weather and Environmental Science program over a five-year period. Since it typically takes transfer students at least two years to complete a degree program, we expect to have graduates starting in the third year. The design of the Bachelor of Applied Science in Weather and Environmental Sciences is unique and the only one in the State of Mississippi, especially since it is tailored towards our military partners' officer positions within their branches. Since the design of this major was done in collaboration with our military partners and their curriculum teams, it will translate to prospective military students both nationally and internationally.

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.

Start-Up Costs: one-time costs associated with offering this program
Start-Up costs include marketing and recruitment activities and materials.

Direct, Incremental Costs: additional annual costs to the university as a result of offering this program

NEW ACADEMIC DEGREE PROGRAM PROPOSAL

Institutional Request Form – Appendix 8

(Submit in PDF format with signatures.)

Beginning Year 1, an instructor/adviser (75% teaching/25% advising) will be hired to help with the teaching and management of the new program. This would be a 12-month appointment at $58K per year.

Incremental Revenue: additional annual revenue assuming that this program will bring in new students paying full tuition

Revenue is projected based on total enrollment times the cost of tuition ($402.75/credit hr) for the online education student enrolled in 6 hours per semester (typical load for our online learners) for fall, spring, and summer semesters. $402.75 per credit hour * 6 credit hours/semester * 3 semesters = $7249.5 per year per student.

Non-Tuition Revenue: external funds, grants, contracts or other revenues attributable to the addition of this program

Differential: all revenues minus all costs

Year	Incoming Students	Total Enrollment	Start-Up Costs	A Additional Annual Costs	B Additional Annual Revenue	C Non-Tuition Revenue	(B+C)-A Differential
2023-24	15	15	$15,000.00	$29,000.00	$108,742.50	$0.00	$64,742.50
2024-25	3	18	$0.00	$29,000.00	$130,491.00	$0.00	$101,491.00
2025-26	4	22	$0.00	$29,000.00	$159,489.00	$0.00	$130,489.00
2026-27	4	26	$0.00	$29,000.00	$188,487.00	$0.00	$159,487.00
2027-28	6	32	$0.00	$29,000.00	$231,984.00	$0.00	$202,984.00
TOTAL	32	112	$15,000.00	$145,000.00	$819,193.50	$0.00	$659,193.50

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 group distributed an interest survey to community colleges that had an existing Bachelor of Applied Science partnership MOU with Mississippi State.

☐ Market Analysis or Evidence of Labor Market Need

In fall 2022, we met with the administration at Keesler Air Force Base located in Biloxi, MS. The 81st training group provides training to over 30,000 officers, airmen, and civilian employees on an annual basis. The leadership of Keesler due to their longstanding relationship with the Geosciences department requested this specific Bachelor of Applied Science to not only meet the educational needs of the Air Force but also provide airmen a path for a baccalaureate degree that was complementary to the training provided on base. This major is designed to meet the education requirements for the Weather and Environmental Science Officer military occupation (WX15). It also provides graduates with a path to graduate degrees at any educational institution and meets the education requirements for the following in-demand civilian occupations: Climate Change Policy Analysts, Geoscientists, GIS Technologists/Technicians, and Natural Sciences Managers.

While the exact demand for this specialization within the military is not quantified, the prioritization of this major by the Air Force base underscores a strategic foresight into the evolving needs of military operations and environmental intelligence. This emphasis reflects a growing recognition of the critical role that weather and environmental science play in national security, operational planning, and disaster response strategies. The military's interest can be seen as a response to the increasing complexity of global environmental challenges and the need for specialized knowledge in navigating these issues.

On the civilian side, the outlook for careers in weather and environmental sciences is decidedly positive. The U.S. Bureau of Labor Statistics (BLS) and other labor market analysts highlight a robust demand for professionals in these fields, driven by a heightened societal focus on climate change, environmental protection, and sustainable development. For instance, occupations such as Climate Change Policy Analysts and Geoscientists are expected to experience faster-than-average growth rates over the next decade. This growth is fueled by the need for expertise in analyzing environmental data, developing policies to mitigate climate change effects, and exploring the Earth's composition and processes. Furthermore, the integration of Geographic Information Systems (GIS) technology across various sectors, including environmental science, amplifies the demand for skilled GIS Technologists and Technicians. The expertise in managing and analyzing spatial data is increasingly vital for decision-making processes in environmental management, urban planning, and emergency response.

12 Employment Opportunities for Graduates (state, region, nation):
By establishing a BAS major specifically designed for airmen in weather and environmental science, Mississippi State University's College of Arts & Sciences would not only be responding to an immediate need within the military but also preparing graduates for meaningful and in-demand careers in the civilian workforce.

For the occupations of interest within Mississippi, the region, and the U.S., specific 10-year employment projections can be somewhat challenging to pinpoint due to the broad categorization of occupations by the Bureau of Labor Statistics (BLS) and the dynamic nature of employment trends. However, the BLS does provide valuable insights into environmentally focused occupations, which can give us a general understanding of the job outlook for Climate Change Policy Analysts, Geoscientists, GIS Technologists/Technicians, and Natural Sciences Managers.

According to the BLS, certain "green" occupations related to the environment or conserving natural resources are projected to see job growth. While the BLS highlights fast employment growth for occupations such as wind turbine service technicians and solar photovoltaic installers, the projection specifics for Climate Change Policy Analysts, Geoscientists, GIS Technologists/Technicians, and Natural Sciences Managers require a closer look at broader environmental and scientific occupational categories due to the way these jobs are classified and reported on.

For example, environmental scientists and specialists, a category that might encompass roles like Climate Change Policy Analysts, are expected to see employment growth. Similarly, occupations that involve the application of geoscience and GIS technology, likely including Geoscientists and GIS Technologists/Technicians, are also projected to grow due to the rising need for experts who can analyze and interpret environmental data, manage natural resources, and contribute to conservation efforts.

The outlook for Natural Sciences Managers is also favorable, as these professionals play a critical role in coordinating and managing the research and development efforts of scientists, including those in environmental and geoscience fields. The demand in this area reflects the broader need for leadership in scientific research that addresses environmental challenges and advances knowledge in these critical areas.

Table 1 below summarizes the employment projections for the positions of Climate Change Policy Analysts, Geoscientists, GIS Technologists/Technicians, and Natural Sciences Managers in Mississippi, the Southern region, and the nation from 2021-2031.

Table 1: Employment Projections for Weather and Environmental Sciences-Related Positions

Job Title	MS	Region	United States
Climate Change Policy Analysts	290	4,360	85,300
Geoscientists	390	1,570	27,600
GIS Technologists/Technicians	1,150	18,250	493,100
Natural Sciences Managers	290	1,610	90,500

Long-Term Occupational Projections (2020-2030). (2023). Projections Central. https://projectionscentral.org/Projections/LongTerm

O*NET OnLine. (2023). National Center for O*NET Development. https://www.onetonline.org/

https://www.airforce.com/careers/aviation-and-flight/weather-and-environmental-sciences-officer

Bachelor of Applied Science in Weather and Environmental Science

Program Level Outcomes and Course Assessment Map

Overarching Program Outcome: This Bachelor of Applied Science major integrates military academic credits, pertinent military experiences, and weather and environmental courses from Mississippi State University to deliver a comprehensive education in weather forecasting, climate analysis, and human-environmental interactions. Graduates will be well-equipped for positions in military weather operations, possessing the essential skills and knowledge to offer crucial meteorological, environmental, and climatological support for military planning and operations.

Program Level Outcome 1, Comprehension of Weather Knowledge for Military: Technical and military courses transferred from either a military institution (e.g. Keesler Air Force Base) or military community college (e.g. Community College of the Air Force). Transferred courses should prepare students for the skills listed below. Mississippi State University will assume that if the student completed and passed their military course training, they will have met this learning outcome.

1. **Meteorological Data Analysis:** demonstrate proficiency in collecting, analyzing, and interpreting meteorological data using specialized instrumentation, software, and forecasting techniques relevant to military operations.
2. **Communication of Weather Information:** will apply their knowledge to assess and communicate weather-related risks and opportunities for mission planning, including understanding the implications of weather conditions on military equipment, logistics, troop movements, aviation operations, tactical strategies, and safety protocols.
3. **Operational Support:** will provide operational support by effectively communicating weather-related information to military personnel, enabling informed decision-making during various military activities, exercises, and missions.
4. **Adherence to Military Standards:** will adhere to military protocols, ethics, and security measures while handling and disseminating meteorological information, ensuring compliance with classified data handling and operational security requirements.

Program Level Outcome 2, Comprehension of Basic Human-Environmental Interactions: Graduates will be able to explain current and historical events related to disasters and be able to describe basic earth system processes, such as the hydrosphere, biosphere, and lithosphere.

1) **GR 4813 Natural Hazards –** 75% of the students will score 75% or higher on the final exam (describing interactions of earth and atmospheric processes with society; for example, causes of earthquakes, volcanoes, serve weather, floods, droughts, and wildfire).
2) **GG 3613 Water Resources –** 75% of the students will score 75% or higher on the water resources comprehensive final exam (explaining the basics of hydrologic cycle, freshwater reservoirs, human impact on water).

3) **GR 3113 Conservation of Natural Resources –** 75% or higher on the final comprehensive exam that covers content related to current and historical environmental issues with the hydrosphere, biosphere, and lithosphere.
Program Level Outcome 3, Application of Climate: Graduates will demonstrate critical thinking by analyzing and explaining the impacts of climate on various sectors, including agriculture, industry, and the economy, and by proposing solutions to climate-related challenges in these areas.
1) **GR 4613 Applied Climate –** at least 75% of students will score 80% or higher on the last laboratory exercise that relates to solving climate questions (drought, agriculture, industry) using real data. related to radiance, reflectivity, and classification of remotely sensed imagery.
Program Level Outcome 4, Application of Fundamental Meteorology Knowledge: Graduates will be capable of applying their fundamental knowledge and skills in atmospheric sciences and climatology to real-world situations, demonstrating the ability to make accurate forecasts for general audiences.
1) **GR 4453 Weather Predication 2 –** (a)at least 75% of students will score 80% or higher on the final exam demonstrating their ability to explain weather forecasting techniques; (b) 75% of students will score 85% or higher on the last forecasting homework exercise of the semester, which demonstrates their ability to generate accurate forecasts. 2) **GR 4913 Thermodynamic Meteorology –** at least 75% of the students will score 75% or higher on the final exam that covers problems related to atmospheric physics, especially energy transfer.
Program Level Outcome 5: Critical Thinking of Specialized Earth System Processes. Graduates will be able to identify and explain advanced earth and atmospheric phenomena within a specific area or specific field of their choosing, including oceanography, coastal sciences, study aboard, community engaged learning, or forensic geosciences.
1) At least 75% of students will score 75% or higher on either the final course project or the final exam, depending on which geoscience elective is taken. Meeting this criterion will be used to evaluate mastery of the course concepts, and thus, demonstrate proficiency describing earth and atmospheric processes within a specialized situation.

Appendix of Transferred Keesler Air Force Courses and Prerequisite Mapping

This is a list of the courses that are taught at Keesler Air Force Base/Air University. The courses from the list - 45 credit hours - would be transferred into the Bachelors of Applied Science towards the "Technical" credits. Geosciences has already accepted some courses into our Broadcast and Operational Meteorology (BOMP) BS program. These previously transferred courses are described in Table 2. Lastly, there was some concern about whether the transferred technical courses would meet the prerequisites for the department courses. Table 3 outlines how a combination of Geosciences and Keesler AFB courses would support all courses in the proposed curriculum.

Table 1: courses transferred as technical credits from Keesler Air Force Base/

Course	Hours:	Course Title:
MET 1403	2	Weather Fundamentals
MET 1701	5	Meteorology I
MET 1702	6	Meteorology II
MET 1808	5	Meteorological Reports/Charts
MET 2201	3	Macroscale Analysis Techniques
MET 2202	4	Synoptic Analysis Techniques
MET 2203	4	Synoptic Analysis Laboratory
MET 2204	3	Mesoscale Analysis Techniques
MET 2205	4	Mesoscale Analysis Laboratory
MET 2801	1	Weather Radar Operations
MET 2809	7	Central Weather Facility
MET 2819	2	Satellite Picture Interpretation
MET 2830	4	Macroscale/Synoptic FCST Tech
MET 2831	3	Macroscale/Synoptic Forecast Lab
MET 2832	4	Mesoscale/Microscale FCST Tech
MET 2833	5	Mesoscale/Microscale Forecast Lab
Total	62	

Table 2: Courses already accepted for the BOMP. These courses meet the Geosciences prerequisites:

Keesler AFB Courses	**Mississippi State Course Equivalent**
MET 1701 Meteorology 1 and MET 1702 Meteorology 2	GR 1133 Weather and Climate and GR 1131 Weather and Climate Lab.
MET 2202 Synoptic Analysis Techniques and MET 2203 Synoptic Analysis Laboratory	GR 4713 Synoptic Meteorology

Table 3: Prerequisites for Geosciences core courses

Geosciences Course	Prerequisite
GG 3603 Intro to Oceanography	No prerequisite
GG 3613 Water Resources	No prerequisite
GR 3113 Conservation of Natural Resources	No prerequisite
GR 4443 Weather Prediction 1	• MSU Course = GR 4713 • Keesler AFB Course = MET 2202 and MET 2203
GR 4453 Weather Prediction 2	GR 4443
GR 4913 Thermodynamic Meteorology	• MSU Course = GR 4713 • Keesler AFB Course = MET 2202 and MET 2203
GR 4923 Severe Weather	GR 4913
GR 4613 Applied Climatology	• MSU = GR 1133/GR 1131 • Keesler AFB = MET 1701 and MET 1702
Elective	See catalog

MEMORANDUM FOR 335 TRS- KEESLER

FROM: CCAF/DECA

SUBJECT: Evaluation of Air Force Courses

COURSE TITLE:	CCAF COURSE #:	PDS CODE:
WEATHER FORECASTER APPRENTICE	258ABR1W031 0A1C	YEO

COURSE CHART (CC) DATE:	PLAN OF INSTRUCTION (POI) DATE:	COURSE START:	SEMESTER HOUR:	LENGTH:
14 Dec 2017	26 Feb 2018	26 Feb 2018	62	151

CC CHANGE DATE:	POI CHANGE DATE:	UPDATED DATE:
NONE	NONE	26 Feb 2018

Course Breakdown

COURSE CODE:	HOURS:	COURSE TITLE:
MET1403	2	WEATHER FUNDAMENTALS
MET1701	5	METEOROLOGY I
MET1702	6	METEOROLOGY II
MET1808	5	METEOROLOGICAL REPORTS/CHARTS
MET2201	3	MACROSCALE ANALYSIS TECHNIQUES
MET2202	4	SYNOPTIC ANALYSIS TECHNIQUES
MET2203	4	SYNOPTIC ANALYSIS LABORATORY
MET2204	3	MESOSCALE ANALYSIS TECHNIQUES
MET2205	4	MESOSCALE ANALYSIS LABORATORY
MET2801	1	WEATHER RADAR OPERATION
MET2809	7	CENTRAL WEATHER FACILITY
MET2819	2	SATELLITE PICTURE INTERPRETATION
MET2830	4	MACROSCALE/SYNOPTIC FCST TECH
MET2831	3	MACROSCALE/SYNOPTIC FORECAST LAB
MET2832	4	MESOSCALE/MICROSCALE FCST TECH
MET2833	5	MESOSCALE/MICROSCALE FORCAST LAB

Units reporting graduates by means other than OTA must report graduates using STARS-FD. If you have any questions regarding this evaluation, please contact your CCAF Regional

Subject: RE: Draft of BAS in Weather and Environmental Operations Major - Feedback Requested
Date: Friday, February 2, 2024 at 11:24:27 AM Central Standard Time
From: COX, SHANE D Maj USAF AETC 335 TRS/DO
To: Owen, Sean, Rodgers, John
CC: ROBERTS, JAMES T Lt Col USAF AETC 81 TRG/CD, SOOTS, LYNN M CIV USAF AETC 81 TRG/TA, DONAHUE, CHRISTOPHER M Lt Col USAF AETC 335 TRS/CC, RITTER, MICHAEL B CIV USAF AETC 335 TRS/TRR, PIERCE, JASON M SMSgt USAF AETC 335 TRS/TRR, WINELAND, SAMUEL C Capt USAF AETC 335 TRS/UOA, DE LA CRUZ, AARON M Capt USAF AETC 335 TRS/UOA, CONNER, JASON L MSgt USAF AETC 335 TRS/UOA
Attachments: image001.png, image002.png, BAS Military Weather and Environmental Operations _Degree_outline_form.docx

Good Morning, Gentlemen!

We had our team review both the attachment and your questions posed last week; please see below for our response plus some follow-on questions:

1. **Is the title of the BAS major sufficient? If not, are there other names your group would prefer?**
   - If possible, we respectfully request a title change to "Weather & Environmental Sciences," which also directly correlates to the official career field name for our officers (Weather & Environmental Science Officers or WESOs, for short).
2. **What are the end goals with offering this major? If it is to provide Airmen a pathway to a baccalaureate degree that aligns to the training and/or a path to a graduate degree? Do you also need graduates to have credentials from NWA? If they want to be credentialed, we need to go a different route as noted in the footer of the attached document.**
   - This degree will encourage further professional development and may serve as a launch pad for those seeking graduate degrees. Without leaping into higher-level math or physics (which is required for most WESOs and NOAA/NWS), this may also facilitate future prior-enlisted officer accessions (i.e., a current enlisted member completes the degree requirements to commission later as an officer). Note: from a student behavioral standpoint, this degree will become a popular option for students if they view it as within their grasp (with a CCAF degree and assuming the general education requirements are complete, potential students could be almost half-way to completion, which would be attractive overall).
   - Graduates under this program will not need credentials from the NWS.
3. **Under Technical Courses in Discipline, are those descriptions accurate depictions of what they learn in military/CC courses?**
   - The provided course descriptions read well and depict what they learn in our military/technical training courses.

Follow-on questions:
1. How long are the classes (in weeks)?
2. How often will the classes be offered (fall only, spring only, summer only, etc.)?
3. Are the classes offered online?

We hope this addresses your questions for now, but we're also happy to provide additional input or discuss further on any other topic related to this subject.

Thank you for allowing us the opportunity to provide feedback and we look forward to future collaboration on this and other endeavors! Have a great weekend!

V/R,

Shane

SHANE D. COX, Maj, USAF
Operations Officer
335th Training Squadron
Keesler Air Force Base, Mississippi
DSN: (312) 597-9339 / Comm: (228) 377-9339

From: ROBERTS, JAMES T Lt Col USAF AETC 81 TRG/CD <james.roberts.22@us.af.mil>
Sent: Thursday, January 25, 2024 4:12 PM
To: COX, SHANE D Maj USAF AETC 335 TRS/DO <shane.cox.3@us.af.mil>
Cc: DONAHUE, CHRISTOPHER M Lt Col USAF AETC 335 TRS/CC <christopher.donahue.1@us.af.mil>; RITTER, MICHAEL B CIV USAF AETC 335 TRS/TRR <michael.ritter@us.af.mil>; SOOTS, LYNN M CIV USAF AETC 81 TRG/TA <lynn.soots@us.af.mil>; Rodgers, John <rodgers@geosci.msstate.edu>; Owen, Sean <sean.owen@msstate.edu>
Subject: FW: Draft of BAS in Weather and Environmental Operations Major - Feedback Requested

Maj Cox,

With Capt Wineland still on leave, I am requesting your team's assistance with gathering feedback for the Bachelor's of Applied Science degree option with our partners at Mississippi State University. Your team has coordinated with Dr. Rodgers and Dr. Owen in the past on this topic. The SME will be critical and will further enable all of our servicemembers apply their CCAF credits to achieving a bachelor's degree in a more realistic timeframe. This will most likely require involvement from your TRR staff.

Please work directly with Drs. Rodgers and Owen and please keep us in the know as you coordinate.

v/r,
Lt Col Roberts

JAMES T. ROBERTS, Lt Col, USAF
Deputy Commander, 81st Training Group
Keesler AFB, MS
DSN: 312-597-2610 | Comm: (228) 377-2610
Duty Cell: (228) 224-1806

From: Rodgers, John <rodgers@geosci.msstate.edu>
Sent: Thursday, January 25, 2024 12:31 PM
To: Owen, Sean <sean.owen@msstate.edu>; ROBERTS, JAMES T Lt Col USAF AETC 81 TRG/CD <james.roberts.22@us.af.mil>; WINELAND, SAMUEL C Capt USAF AETC 335 TRS/UOA <samuel.wineland.1@us.af.mil>
Cc: Vowell, Kenna <kenna.vowell@msstate.edu>
Subject: [Non-DoD Source] Re: Draft of BAS in Weather and Environmental Operations Major - Feedback Requested

All,

Thank you sending this out Dr. Owen. I want to echo that this is an initial plan that is modifiable. I devised the course lists based on my memory of our conversations in 2023. It is not meant to be definitive and I look forward to your suggestions. I also came up with the language for the technical credit learning outcomes on my own, and it will be clear that this is not my area. I would appreciate your review and help with this section too.

I am looking forward to hearing from you. Please email me or call if there are questions.

Thanks!
John Rodgers

From: Owen, Sean <sean.owen@msstate.edu>
Date: Thursday, January 25, 2024 at 11:25 AM
To: ROBERTS, JAMES T Lt Col USAF AETC 81 TRG/CD <james.roberts.22@us.af.mil>, WINELAND, SAMUEL C Capt USAF AETC 335 TRS/UOA <samuel.wineland.1@us.af.mil>
Cc: Vowell, Kenna <kenna.vowell@msstate.edu>, Rodgers, John <rodgers@geosci.msstate.edu>
Subject: Draft of BAS in Weather and Environmental Operations Major - Feedback Requested

Lt. Col. Roberts and Capt. Wineland,

I hope the spring semester is going well at Keesler Air Force Base. Recently, we have been working towards the completion of the design of the Bachelor of Applied Science in Weather and Environmental Operations Major. Dr. John Rodgers met with us recently in the hopes of finalizing a draft of the degree. We would love to request your input on the efficacy of the design of the major as well as request input and clarification on few items surrounding this major. When you have time, these are the questions we have that we need answers:

1. Is the title of the BAS major sufficient? If not, are there other names your group would prefer?
2. What are the end goals with offering this major? If it is to provide airmen a pathway to a baccalaureate degree that aligns to the training and/or a path to a graduate degree? Do you also need graduates to have credentials from NWA? If they want to be credentialed, we need to go a different route as noted in the footer of the attached document.
3. Under Technical Courses in Discipline, are those descriptions accurate depictions of what they learn in military/CC courses?

If you don't mind, please review with whomever you wish to evaluate the major and answer the questions. If we get agreement on the final document, we can start the approval process at Mississippi State University and the state board.

Thank you in advance and eagerness to partner with Mississippi State in this manner!
Sincerely,
Sean

Sean Owen, Ph.D.
Associate Dean
College of Professional and Continuing Studies
Mississippi State University | 305 Memorial
Mississippi State, MS 39762
o: 662.325.3501 | **c:** 662.312.0994
e: sean.owen@msstate.edu
w: https://www.cpcs.msstate.edu

Book time to meet with me