



New Program Report

Date Submitted:
02/01/2019

Institution
Missouri Southern State University

Site Information

Implementation Date:
8/1/2019 12:00:00 AM

Added Site(s):

Selected Site(s):

Missouri Southern State University, 3950 E. Newman Road, Joplin, MO, 64801-1595

CIP Information

CIP Code:
512202

CIP Description:

A program that focuses on the application of environmental sciences, public health, the biomedical sciences, and environmental toxicology to the study of environmental factors affecting human health, safety, and related ecological issues, and prepares individuals to function as professional environmental health specialists. Includes instruction in epidemiology, biostatistics, toxicology, public policy analysis, public management, risk assessment, communications, environmental law, occupational health and safety emergency response, and applications such as air quality, food protection, radiation protection, solid and hazardous waste management, water quality, soil quality, noise abatement, housing quality, and environmental control of recreational areas.

CIP Program Title:
Environmental Health

Institution Program Title:
Environmental health and Safety

Degree Level/Type

Degree Level:
Bachelor's Degree

Degree Type:
Bachelor of Applied Science

Options Added:

Environmental Health and Safety

Collaborative Program:
N

Mode of Delivery

Current Mode of Delivery
Classroom



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Hybrid

Online

Student Preparation

Special Admissions Procedure or Student Qualifications required:

n/a

Specific Population Characteristics to be served:

Any student who holds an associate's degree from any regionally-accredited institution would be eligible for the B.A.S. in EHS program. safety. By developing this degree, we are offering a direct route for these students to complete a bachelor's degree in environmental health and safety that will also allow them to achieve various certifications and designations that are valuable to employers. We anticipate recruiting students from community and technical colleges.

Faculty Characteristics

Special Requirements for Assignment of Teaching for this Degree/Certificate:

We employ 2 full-time faculty with earned terminal degrees in the discipline as well as academic and/or practical experience .

Estimate Percentage of Credit Hours that will be assigned to full time faculty:

90% of program credit hours will be taught by MSSU full-time faculty.

Expectations for professional activities, special student contact, teaching/learning innovation:

The B.A.S. in EHS curriculum will provide students with the opportunity to apply for the Associate Safety and Health Manager (ASHM) designation, to seek certification in DOT Hazmat Advanced General Training and HAZWOPER. We also anticipate that this curriculum will soon meet the Board of Certified Safety Professionals Qualified Academic Program standards. Approval would designate our graduates as a Graduate Safety Practitioner (GSP).

Student Enrollment Projections Year One-Five

Year 1	Full Time: 20	Part Time: 5	
Year 2	Full Time: 38	Part Time: 8	
Year 3	Full Time: 58	Part Time: 16	Number of Graduates: 20
Year 4	Full Time: 60	Part Time: 20	
Year 5	Full Time: 80	Part Time: 24	Number of Graduates: 40

Percentage Statement:

n/a

Program Accreditation

Institutional Plans for Accreditation:

We will not be seeking programmatic accreditation for this program. Although we hold national accreditation for our B.S. in Environmental Health and Safety, this program ks designed to provide students with an associate degree a path to bachelors completion. Unfortunately national accreditation requirements are prohibitive for these students to transition from associate to bachelors programs.

Program Structure



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Total Credits:

120

Residency Requirements:

n/a

General Education Total Credits:

42

Major Requirements Total Credits:

39

Course(s) Added

COURSE NUMBER	CREDITS	COURSE TITLE
EH 311	3	Soil, Morphology and Sewage Systems
EH 372	3	Environmental Regulations
EH 377	3	Food Safety
EH 410	1	Hazardous Incident Management
EH 411	2	Hazardous Material Safety
EH 375	1	Disease Vector Control
EH 380	3	Epidemiology
EH 376	3	Water Quality Management
EH 378	3	Occupational Health & Safety
EH 370	3	Environmental Health & Safety
EH 371	3	Environmental Toxicology
EH 382	1	Epidemiological Statistics
EH 379	1	Career Planning for EHS
EH 373	3	Solid & Hazardous Waste Management
EH 481	3	Environmental Risk & Safety Management
EH 374	3	Industrial Hygiene Sampling & Management

Free Elective Credits:

5

Internship or other Capstone Experience:

n/a

Assurances

I certify that the program is clearly within the institution's CBHE-approved mission. The proposed new program must be consistent with the institutional mission, as well as the principal planning priorities of the public institution, as set forth in the public institution's approved plan or plan update.

I certify that the program will be offered within the proposing institution's main campus, CBHE-approved service region or CBHE-approved off-site location.



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I certify that the program will not unnecessarily duplicate an existing program within the geographically applicable area.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the program can be launched with minimal expense and falls within the institution's current operating budget.

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

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MoExcels Request for Funding Proposal

Institution: Missouri Southern State University

Project Title: Environmental Health and Safety Curriculum and Workforce Development

Project Description: The project description is two-fold: 1) the development and implementation of the Bachelor of Applied Science (B.A.S.) in Environmental Health and Safety will meet the current and projected workplace needs for qualified employees by allowing students with any associate's degree from a regionally-accredited institution to be eligible to obtain the B.A.S. in Environmental Health and Safety including obtaining specific designations that are valuable to industry and public health employers and 2) this project will strengthen a developing center of educational excellence in the field of environmental health and safety by funding renovations to current facilities and supporting the purchase of updated equipment, both of which will support the curriculum and serve to support the development of partnerships with external entities to develop a training center for industry and public health workers.

Funding Information

Funds Requested for FY20: \$188,428

Match Funds: \$ 94,214

Total Funds Utilized: \$282,642

Number of Completers Annually: 20 for the B.A.S. in EHS degree; 3 additional completers for the existing B.S. in EHS degree; 3 additional completers for existing state-approved certificate programs

Cost per Completer: Requested funds for equipment and renovation will have long-term utilization. Based on a minimum projection of ten years (with no completers in Year 1 for the B.A.S.; no completers in Years 1-3 for the B.S.; no completers for Year 1 for certificate programs), the cost per completer for MoExcel dollars will be approximately \$826.

Contents: Proposal
Attachment A: MoExcels Budget Template
Letter of Support

Date of Submission: November 2, 2018

This proposal is requesting funds for curriculum development for Bachelor of Applied Science in Environmental Health and Safety, renovation expenses of existing space to support curriculum and the development of a training center for external partners thus expanding a center of excellence, and equipment purchases.

Section 1: Statement of Need

Workforce Need

1. Identification of quantitative workforce need

Labor market projections provide ample evidence that there is a need (both current and projected) for qualified workers in the field of Environmental Health and Safety (EHS). Environmental health and safety is a broad field that includes work areas in environmental health and safety workers and managers, epidemiologists, environmental scientists, occupational health and safety specialists, compliance officers, risk management personnel, public health and safety technicians and many more specialty areas. Most often, labor market projections are broken into specific areas rather than the broad area of environmental health and safety.

The Bureau of Labor Statistics (BLS) noted that “heightened public interest in the hazards facing the environment, as well as increasing demands placed on the environment by population growth, are expected to spur demand for environmental scientists and specialists” (2018). In addition, the BLS stated “overall employment of occupational health and safety specialists and technicians is projected to grow 8 percent from 2016 to 2026, about as fast as the average for all occupations. Specialists and technicians will be needed in a wide variety of industries to ensure that employers adhere to both existing and new regulations” (2018).

As of 2017, in the state of Missouri there were 960 persons employed in the area of environmental scientists and specialists, including health and 1460 occupational health and safety specialists (BLS, 2018). Employment in both of these areas is projected to grow at greater than 9% percent from 2016 to 2026 (MERIC, 2018). Both of these jobs typically require a bachelor’s degree such as MSSU’s Environmental Health and Safety. Based on this data, there were about 2,420 persons employed in these two types of environmental health and safety positions in 2017 and growth would require about 248 new hires. In addition, growth in emergency management director and epidemiologist positions will create about another 19 new hires, for a total of 267 potential new hires (MERIC, 2018).

Three out of the ten identified regions in the state of MO are expecting growth in the area of environmental scientists and specialists, including health. This growth ranges from 3.8% to 32.7%. Two regions that are in close proximity to our southwest region are expecting growth of 20.7% (Kansas City) and 32.7% (Ozark). Eight of ten regions in the state are expecting job growth for occupational health and safety specialists. This growth ranges from 3.5% to 17.3%. The *largest* growth is expected in our southwest region (MERIC, 2018).

2. Identification of qualitative workforce needs

Various employers have indicated a need for properly trained and certified environmental health and safety workers. The MSSU Environmental Health and Safety Program provides the quality coursework necessary for our graduates to gain employment and be successful in a variety of occupations, such as environmental scientists and specialists (including health), occupational health and safety specialists, emergency management directors and epidemiologists. Students gain knowledge, skills and abilities in the full range of environmental health and safety issues, such as the risk assessment and protection of air quality, water quality, food safety, and worker safety. In completing the curriculum, our students can gain the following certifications/designations that are valuable to employers in industry, public health, and government, including the military: 1) Certified Environmental Health Specialist (CEHS) – this certificate normally requires two years of experience after graduation for students with other types of science degrees, but is awarded to graduates of our Environmental Health and Safety program; 2) Associate Safety and Health Manage (ASHM) designation – students are eligible to apply for this designation upon graduation, waiving the normally required two years of work experience; 3) Registered Environmental Health Specialist; 4) Certified Professional in Food Safety; 5) Certified Healthcare Safety Professional; 6) HAZWOPER Certificate (40 hours).

3. Expansion of a Center of Excellence

Missouri Southern has been working to establish a center of excellence in the field of environmental health and safety during recent years. We define a center of excellence as a program that provides a unique, focused educational opportunity that includes multiple modes of delivery and that serves students as well as external partners such as industry or other entities. The

establishment of this center of excellence is in progress and will be finalized with the procurement of additional funding and the establishment of an additional degree within the field of environmental health and safety. The center focuses on providing curriculum and training that will meet various needs of employment. Some of the needed curriculum and training opportunities are already operational; additional curriculum and training programs need to be developed and implemented. Part of this proposal is a request for funds to develop additional curriculum and provide a training center for students and external partners.

We are currently the sole provider of an EHS degree (Bachelor of Science) within the state of Missouri. Our current B.S. degree is one of only 29 programs in the nation to be accredited by Environmental Health Accreditation Council (EHAC). The first phase that we implemented in establishing a center of excellence was the development and implementation of an online B.S. in EHS degree. Currently, we are the ONLY accredited degree option in the nation to provide students a complete online degree completion process in this field. The B.S. degree program is a Board Approved Degree Program by the Institute for Safety and Health (ISHIM). This is a huge benefit to our graduates as this automatically allows them upon graduation to apply for and receive the Associate Safety and Health Manager (ASHM) designation. Our students may also become certified in DOT Hazmat Advanced General Training and HAZWOPER. Other certifications available upon graduation are the Certified Environmental Health Specialist (in Missouri), Registered Environmental Health Specialist (nationally), Certified Professional in Food Safety and Certified Healthcare Safety Professional. Specific employers such as the military or other governmental entities *require* workers to have a degree from an accredited program. Our current B.S. in EHS degree provides an educational opportunity, both on campus and online, for students to obtain these types of jobs as well as other jobs in various industries and public health sectors. Since the implementation of the online accredited B.S. degree, our student enrollment numbers have more than doubled, thus providing evidence that a need for an online program such as this exists.

The next step in further developing our center of excellence is the development and implementation of an additional degree program: a Bachelor of Applied Science (B.A.S.) in Environmental Health and Safety. Specifically, we are seeking to provide a curriculum that allows students who have obtained an associate's degree to complete a B.A.S. with either on-campus or online delivery and readily enter the workforce. This means that Missourians who are stationed in various locations in the world through the military or are already working in the job force in Missouri, but are looking for advancement are still able to complete a B.A.S. program. The need for this curriculum stems from several factors. The EHAC accreditation requirements can be prohibitory for many students that already have an associate's degree and yet may be required to obtain a significant amount of additional credit hours beyond the environmental health and safety courses in order to meet the accreditation requirements. Although governmental employers may require an accredited degree program, many other employers do not. With the B.A.S. degree, we would be able to equip students with the knowledge, skills, and credentials that would allow them to be eligible for many jobs within the field of environmental health and safety. In addition to being a much more viable option for students who have associate's degrees, the B.A.S. program will provide students with many of the same benefits as described above with the accredited programs. We anticipate working closely with community and technical colleges to smoothly transfer students into the B.A.S. program.

For both the B.S. and B.A.S. degrees, we are anticipating that our curriculum will soon meet the Board of Certified Safety Professionals Qualified Academic Program standards. Approval would designate our graduates as a Graduate Safety Practitioner (GSP). The GSP standards would require some health and safety topics to be addressed in more detail, thus expanding the quality of the EH courses. Funding for equipment and classroom renovation would enhance our ability to teach these expanded topics.

In terms of curriculum, it should be noted that our center of excellence also offers four certificate programs: Environmental Health and Safety (general), Environmental Protection, Environmental Public Health, and Occupational Health and Safety. These certificates help the workforce knowledge base by providing specialized or broad based information on EHS for those not seeking the entire degree. An expanded center for excellence in EHS will help to promote and market these certificates to the public. These certificates are not offered by other institutions.

Finally, an additional step in finalizing the development of our center of excellence is the creation of a training center that will allow us to provide additional educational training opportunities to workers in industry, public health, and other entities. This training center includes renovation of existing space as well as the purchase of additional equipment and would be supportive of hands-on training as well as the development of training videos and other materials that can be delivered online.

4. Evidence of Need from Employers

Evidence of meaningful commitment toward the EHS Program by area industry and government employers includes the hiring of graduates and/or accepting student interns of our EHS program. Local companies in southwest Missouri include Eagle Picher, Leggett & Platt, La-Z-Boy, Blue Buffalo, and Rock-Tenn. Government agencies include the Missouri Department

of Health and Human Services, the Department of Natural Resources, and numerous county and city health departments. In addition to meeting local employment needs, the B.A.S. and B.S. programs can also meet the need for qualified workers in environmental health and safety in *all* areas of the state since the program can be completed online or on-campus. This provides incredible flexibility for students and provides a degree credential that can be more realistically obtained by many students.

In addition to the development of a B.A.S in EHS to serve more degree-seeking students, non-degree seeking students could also take advantage of the updated classroom and lab facilities with continuing education courses. A local consulting firm, Environmental Health and Safety LLC of Joplin, has stated the desire to enter into an agreement with MSSU to provide professional continuing education courses in environmental health and safety to area workers and management personnel of industry. This arrangement allows the center for excellence to develop both university level courses and continuing education courses that will better serve the environmental health and safety educational needs of the area. This is supportive of the Joplin Area Chamber of Commerce's Mission Statement which includes a goal of "To improve the economic prosperity and quality of life in the Joplin region...". Additional funding would be supportive of needed renovations and equipment for the training room in the center of excellence.

Increase Postsecondary Educational Attainment

Any student who holds an associate's degree from any regionally-accredited institution would be eligible for the B.A.S. in EHS program. There are various types of associate degree programs related to the field of environmental health and safety, but there are no institutions offering a B.A.S in that field in Missouri. By developing this degree, we are offering a direct route for these students to complete a bachelor's degree in environmental health and safety that will also allow them to achieve various certifications and designations that are valuable to employers.

We anticipate recruiting students who have completed an associate's degrees from community and technical colleges. Area community colleges, such as Crowder College and Ozark Technical College, have expressed great interest in articulating with our proposed B.A.S. in EHS. This is a statement from Dr. Glenn Coltharp, Vice President of Academic Affairs of Crowder Community College, regarding the development and implementation of the B.A.S. in EHS degree: "...I truly believe we need more Bachelor of Applied Science degree options for our students. I have seen the difference and the impact our Associate of Science Degrees have had on the workforce of Southwest Missouri. For economic growth and a more qualified work force, we need to move the bar to the Bachelor level with Applied Science degrees...Students could enter this degree with a variety of backgrounds and have a variety of options within the degree."

Following appropriate development and recruitment, we project that we will have at least 20 graduates from the B.A.S. in EHS annually. This number is *in addition* to the number of graduates of the current B.S. and certificate EHS program. In addition, we estimate that we will gain an additional 3 graduates in the B.S. program annually and 3 completers of various certificates due to the renovated facilities and equipment purchases. This initiative is supportive of Missouri's Big Goal for Higher Education (<https://dhc.mo.gov/blueprint.php>) which includes "60% of adults to have a certificate or degree by 2025". The B.A.S., B.S., and four certificate programs in EHS align with this goal of educational attainment as well as the goal for investment, advocacy, and partnerships with the implementation of the training center. MoExcels funding would be supportive of curricular development and recruitment.

Section 2. Project Plan

1. Detailed project timeline

This project has three phases to completion. The first phase will include solidifying the curriculum for the Bachelor of Applied Science in Environmental Health and Safety degree. This process will include undergoing an extensive review and approval process at various levels. The second phase includes renovation of existing space and equipment purchases. The third phase includes active student recruitment and ultimately participation in the program. The third phase can begin as soon as the first phase is completed. A projected timeline of major events is described below.

Phase 1 Degree Review and Approval

November 2018	Departmental review/approval of degree proposal
	School/University review/approval of degree proposal (faculty level)
January-February 2019	Administrative review/approval of degree proposal
February 2019	Submission of degree proposal to MDHE
April 2019	Submission/notification to HLC for degree proposal

May – October 2019 Complete curricular development of specific courses

Phase 2 Renovation (Based on Availability of Funds) (Overlaps with Phase 1)

July 2019 MOExcels funds awarded for FY20
Aug-Sept 2019 Renovations plans solidified
Oct-March 2019 Renovation work

Phase 3 Student Recruitment and Participation (Overlaps with Phases 1 and 2)

January 2020 Active advertisement and student recruitment
April-August 2020 Student enrollment occurs
Plan training sessions for industry stakeholders
August 2020-Future Degree program begins with new academic year
Conduct training sessions with industry stakeholders

2. Measurable objectives for each phase of the project

Phases 1 and 2 will be assessed and managed in terms of an on-task timeline. For Phase 3, a strategic plan for recruitment of students will be developed with specific goal for outreach and enrollment. For tracking student progress within the B.A.S. in EHS program, we will include data metrics such as enrollment, semester-to-semester and year-to-year retention, completer (graduate) data, and post-graduate employment at 6-month and 1-year intervals. The B.A.S. would also be subject to regular institutional program review assessment which includes a review of all aspects of the program including student participation and progress, program learning objectives, facilities, and resources. Assessment will begin as early as April 2020 with the first cohort. We project that our first cohort will graduate as early as May 2022.

Section 3. Sustainability

Renovation to an existing space and equipment purchases will have a long-term impact, spanning multiple years in terms of utilization. The renovation and equipment as well as the implementation of the B.A.S. and continuation of the B.S. and certificate EHS programs will continue to serve the local area and state employment needs. The one-time funding from MoExcels will provide the necessary platform to accomplish these sustainable objectives:

- The equipment and renovations requested are projected to last and provide greater educational opportunities for the EHS future workforce for at least 10 years.
- Existing EHS course quality will be enhanced by the use of the equipment and renovations which will in turn enhance workforce knowledge for many years to come.
- The Center for Excellence in EHS will partner with industrial consultants to provide adult continuing education courses to the workforce in need of EHS information and regulation as well as provide training for local and online students.

Section 4. Characteristics of Students Served by Institution

1. The percent of Missouri Southern students, including undergraduate and graduate students, who are Hispanic or Latino, American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander is 17%. This percent is the most recently reported 12-month data to IPEDS.
2. The percent of Missouri Southern students, specifically all undergraduate students, who are eligible to receive Pell Grants is 44%. This percent is the most recently reported 12-month data to IPEDS.
3. The percent of Missouri Southern students, specifically undergraduate and graduate students, from Missouri counties with populations of 70,000 or less is 34%.

Thank you for your consideration of this request. Additional information can be provided upon request.

MISSOURI SOUTHERN STATE UNIVERSITY

Proposal to Add Option to Existing Degree

Contents of Proposal

1. Requested Action: Add Option to Existing Degree
2. Rationale
 - Market Demand for Environmental Health and Safety Professionals
 - Advantages of Bachelor of Applied Science in Environmental Health and Safety Degree
3. Existing Curriculum
4. Proposed Curriculum

February 1, 2019

Requested Action: Add Option to Existing Degree (Staff Review)

Missouri Southern State University requests to add an option of Environmental Health and Safety to an existing degree, the Bachelor of Applied Science degree.

Rationale

The Bachelor of Applied Science (B.A.S.) degree is designed for students who have completed a two-year degree and would like to complete a four-year degree program. Specifically, the BAS provides students the opportunity to complete an abbreviated program of study relevant to their career objectives. The BAS can be interdisciplinary or focus on a specific discipline while still meeting core degree learning outcome goals.

Market Demand for Environmental Health and Safety Professionals

The specific option of Environmental Health and Safety (EHS) will serve to meet a need for qualified EHS professionals in Missouri's workforce as well as promote student awareness of this field. Labor market projections provide ample evidence that there is a need (both current and projected) for qualified workers in the field of Environmental Health and Safety (EHS). Environmental health and safety is a broad field that includes work areas in environmental health and safety workers and managers, epidemiologists, environmental scientists, occupational health and safety specialists, compliance officers, risk management personnel, public health and safety technicians and many more specialty areas. Most often, labor market projections are broken into specific areas rather than the broad area of environmental health and safety.

The Bureau of Labor Statistics (BLS) noted that "heightened public interest in the hazards facing the environment, as well as increasing demands placed on the environment by population growth, are expected to spur demand for environmental scientists and specialists" (2018). In addition, the BLS stated "overall employment of occupational health and safety specialists and technicians is projected to grow 8 percent from 2016 to 2026, about as fast as the average for all occupations. Specialists and technicians will be needed in a wide variety of industries to ensure that employers adhere to both existing and new regulations" (2018).

As of 2017, in the state of Missouri there were 960 persons employed in the area of environmental scientists and specialists, including health and 1460 occupational health and safety specialists (BLS, 2018). Employment in both of these areas is projected to grow at greater than 9% percent from 2016 to 2026 (MERIC, 2018). Both of these jobs typically require a bachelor's degree such as MSSU's Environmental Health and Safety. Based on this data, there were about 2,420 persons employed in these two types of environmental health and safety positions in 2017 and growth would require about 248 new hires. In addition, growth in emergency management director and epidemiologist positions will create about another 19 new hires, for a total of 267 potential new hires (MERIC, 2018).

Three out of the ten identified regions in the state of MO are expecting growth in the area of environmental scientists and specialists, including health. This growth ranges from 3.8% to 32.7%. Two regions that are in close proximity to our southwest region are expecting growth of 20.7% (Kansas City) and 32.7% (Ozark). Eight of ten regions in the state are expecting job growth for occupational health and safety specialists. This growth ranges from 3.5% to 17.3%. The *largest* growth is expected in our southwest region (MERIC, 2018).

Advantages of Bachelor of Applied Science in Environmental Health and Safety Degree

Currently, Missouri Southern State University offers a Bachelor of Science (B.S.) in Environmental Health and Safety (EHS) degree that is accredited by the Environmental Health Accreditation Council (EHAC). Certain employers such as the military or other governmental entities require an accredited degree such as the B.S. in EHS. The existing B.S. in EHS degree provides an educational opportunity, both on campus and online, for students to obtain these types of jobs as well as other jobs in various industries and public health sectors. With the B.A.S. in EHS, we are seeking to provide a curriculum that allows students who have obtained an associate's degree to complete a B.A.S. with either on-campus or online delivery and readily enter the workforce. This means that Missourians who are stationed in various locations in the world through the military or are already working in the job force in Missouri, but are looking for advancement are still able to complete a B.A.S. program. The need for this curriculum stems from several factors. The EHAC accreditation requirements can be prohibitory for many students that already have an associate's degree and yet may be required to obtain a significant amount of additional credit hours beyond the environmental health and safety courses in order to meet the accreditation requirements. Although governmental employers may require an accredited degree program, many other

employers do not. With the B.A.S. degree, we would be able to equip students with the knowledge, skills, and credentials that would allow them to be eligible for many jobs within the field of environmental health and safety. In addition to being a much more viable option for students who have associate's degrees, the B.A.S. in EHS curriculum will provide students with the opportunity to apply for the Associate Safety and Health Manager (ASHM) designation, to seek certification in DOT Hazmat Advanced General Training and HAZWOPER. We also anticipate that this curriculum will soon meet the Board of Certified Safety Professionals Qualified Academic Program standards. Approval would designate our graduates as a Graduate Safety Practitioner (GSP).

Any student who holds an associate's degree from any regionally-accredited institution would be eligible for the B.A.S. in EHS program. There are various types of associate degree programs related to the field of environmental health and safety, but there are no institutions offering a B.A.S. in that field in Missouri. By developing this degree, we are offering a direct route for these students to complete a bachelor's degree in environmental health and safety that will also allow them to achieve various certifications and designations that are valuable to employers.

We anticipate recruiting students who have completed an associate's degrees from community and technical colleges. Area community colleges, such as Crowder College and Ozark Technical College, have expressed great interest in articulating with our proposed B.A.S. in EHS. We anticipate working closely with community and technical colleges to smoothly transfer students into the B.A.S. program. Following appropriate development and recruitment, we project that we will have at least 20 graduates from the B.A.S. in EHS annually. This number is *in addition* to the number of graduates of the current B.S. and certificate EHS program. This initiative is supportive of Missouri's Big Goal for Higher Education (<https://dhe.mo.gov/blueprint.php>) which includes "60% of adults to have a certificate or degree by 2025".

Existing Curriculum

Bachelor of Applied Science (B.A.S)

Any student who holds an associate's degree from any regionally-accredited institution may be eligible for the Bachelor of Applied Science degree. Students must complete specific courses that address core degree learning outcomes, 39 upper division credit hours (300-level or above), and a minimum of 120 credit hours. Specific requirements:

1. Associate's Degree (Any associate's degree from a regionally-accredited institution) Students transferring less than 60 credit hours will need to complete additional electives in order to complete the degree.	60 cr. hrs.
2. Career Enhancement/Advancement Track Students will complete approved electives within a specific career track.	39 cr. hrs.
3. Critical Career Competencies* Students will complete 9 hours of approved required courses and 6 hours of approved elective courses.	15 cr. hrs.
4. Essential Global Wisdom* Students will complete approved required courses.	6 cr. hrs.
Total	120 cr. hrs.

*Specific learning objectives for these areas will meet various general education goals. Specific Information for sections 3 and 4 is described below:

3. Critical Career Competencies

The learning objectives for this component include:

1. Present evidence derived from authoritative sources to articulate and contextualize a problem
2. Analyze situations, recognize patterns, and dissect issues using relevant historical, cultural and scientific frameworks
3. Challenge assumptions, formulate arguments, and justify conclusions using systematic research process and persuasive modes of communication.

4. Essential Global Wisdom

Courses will address the following topics:

1. Numerative and Quantitative Literacy – coverage of essential mathematical and statistical concepts embedded in content that enhances masters of the scientific method, personal finance, and research skills.
2. The Creative Society – coverage of ethics, social sciences, humanities and global content to meet our institution’s international mission.

Proposed Curriculum

Bachelor of Applied Science (B.A.S.) in Environmental Health and Safety

Any student who holds an associate’s degree from any regionally-accredited institution may be eligible for the Bachelor of Applied Science (B.A.S) degree in Environmental Health and Safety (EHS). The B.A.S in EHS requires upper division coursework in EHS and electives chosen in consultation with their EHS advisor that would enhance their success in a career in one of the many areas of the broad field of environmental health and safety. Example electives may include, but not are limited to the areas of: business, management, industrial technology, communications, social sciences, geography, geology, water/wastewater, sustainability or lower division EHS courses.

1. Associate’s Degree (Any associate’s degree from a regionally-accredited institution)				60 cr. hrs.	
Students transferring less than 60 credit hours will need to complete additional electives in order to complete 120 hours for the B.A.S in EHS degree.					
2. Environmental Health and Safety Track				39 cr. hrs.	
Course offerings are arranged into semester blocks; students may take on campus or distance learning courses in order to fulfil requirements.					
On-Campus Option			Distance Learning Option		
EH Semester Block 1 (Fall, even)			EH Semester Block 1 (Fall, even)		
EH 373	Solid & Hazardous Waste Mgmt	3	EH 370	Environmental Health & Safety	3
EH 374	Industrial Hygiene Sampling and Management	3	EH 377	Food Safety	3
EH 375	Disease Vector Control	1	EH 378	Occupational Health & Safety	3
EH 376	Water Quality Management	3	EH 380	Epidemiology	3
EH Semester Block 2 (Spring, odd)			EH Semester Block 2 (Spring, odd)		
EH 370	Environmental Health & Safety	3	EH 371	Environmental Toxicology	3
EH 379	Career Planning for EHS	1	EH 373	Solid & Hazardous Waste Management	3
EH 380	Epidemiology	3	EH 375	Disease Vector Control	1
EH 410	Hazardous Incident Management	1	EH 376	Water Quality Management	3
EH 481	Environmental Risk and Safety Management	3	EH 382	Epidemiological Statistics	1
EH Semester Block 3 (Fall, odd)			EH Semester Block 3 (Fall, odd)		
EH 311	Soil Morphology & Sewage Systems	3	EH 372	Environmental Regulations	3
EH 377	Food Safety	3	EH 374	Industrial Hygiene Sampling & Management	3
EH 378	Occupational Health & Safety	3	EH Semester Block 4 (Spring, even)		
EH 382	Epidemiological Statistics	1	EH 311	Soil Morphology & Sewage Systems	3
EH 411	Hazardous Material Safety	2	EH 379	Career Planning for EHS	1
EH Semester Block 4 (Spring, even)			EH 410	Hazardous Incident Management	1
EH 371	Environmental Toxicology	3	EH 411	Hazardous Material Safety	2
EH 372	Environmental Regulations	3	EH 481	Environmental Risk & Safety Management	3
3. Critical Career Competencies				15 cr. hrs.	
Required Courses				10	
EH 107	Environmental Science			3	
CHEM 121/122	Chemistry for Allied Health Sciences/Lab			4	

COMM 205 OR COMM 305	Active Listening & Strategic Negotiations OR Intercultural Communication	3
Electives		5
PHIL 212 OR PHIL 312	Ethics OR Biomedical Ethics	3
EH 211	HAZWOPER	3
EH 300	Environmental Geology	3
EH 304	Introduction to Geographic Information Systems	3
EH 312	Environmental Biology	3
EH 404	Applications in Geographic Information Systems	3
GB 320	Business Communications	3
PSC 321	International Relations	3
4. Essential Global Wisdom		6 cr. hrs.
MATH 125 or higher	Contemporary Mathematics	3
INTS 301	World Humanities	3
Total Hours		120 cr. hrs.

Student must complete 39 upper division credit hours (300-level courses or above).

Students must consult with their EHS advisor for suggestions on EHS related elective courses or other elective courses that will assist the student in attaining their career goals.

Students taking lower division environmental health and/or safety courses, such as those provided by associate degree programs, water/wastewater programs or the military, may count those courses as electives.