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| For Academic Affairs and Research Use Only |
| Proposal Number |  |
| CIP Code:  |  |
| Degree Code: |  |

**NEW PROGRAM / CERTIFICATE PROPOSAL FORM**

**(More than 50% of the courses are new and created for this program)**

(Also requires Arkansas Department of Higher Education (ADHE) approval)

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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| Julie B. King | 8/7/2020 |

**Department Chair** |

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**Head of Unit (if applicable)**   |
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| Mary Elizabeth Spence | 9/4/2020 |
| **Office of Assessment** |  |

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**Undergraduate Curriculum Council Chair** |
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| Shanon Brantley | 08/26/2020 |

**College Curriculum Committee Chair** |

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**Graduate Curriculum Committee Chair** |
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| \_\_\_\_\_Susan Hanrahan\_\_ | 8/17/2020 |

**College Dean** |

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**Vice Chancellor for Academic Affairs** |
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**General Education Committee Chair (if applicable)**   |  |

1. **Contact Person** (Name, Email Address, Phone Number)

Julie King, Arkansas State University, College of Nursing & Health Professions, P.O. Box 910, State University, AR 72469, juking@astate.edu 870-972-3920

1. **Proposed Program Title**

Bachelor of Science in Occupational and Environmental Safety and Health

1. **Contact Person** (Name, Email Address, Phone Number)

Dr. Julie B. King, juking@astate.edu, 870-972-3920

1. **Proposed Starting Date**

Fall 2021

1. **Is there differential tuition requested?** *If yes, please fill out the New Program/Tuition and Fees Change Form.*

No

**Program Justification**

1. Justification for the introduction of the new program. Must include:

1. Academic rationale (how will this program fit into the mission established by the department for the curriculum?)
The program in Occupational and Environmental Safety and Health will provide a comprehensive and quality education to students wishing to become occupational safety or environmental health practitioners in a variety of industries represented in the lower Mississippi Delta region, the state of Arkansas, and beyond. The program curriculum will encompass a wide variety of basic areas of study including science, mathematics, statistics, and communication followed by more specialized coursework in occupational safety and environmental health topics. Students will also have the opportunity to gain relevant experience in partnership with community private or public sector industry in an internship towards the end of their undergraduate career. Upon completion of this program, graduates will be able to enter their respective fields as general practitioners and be prepared to complete certification exams necessary for career advancement. This program will give students the necessary background to develop and lead occupational and environmental safety and health programs and aid organizations in maintaining compliance with applicable environmental, health and industry safety regulations.
2. List program goals (faculty or curricular goals.)
3. To educate the next generation(s) of environmental health and safety practitioners that will be able to function effectively in industrial settings, the public sector, or academia. 2. To produce graduates that are able to communicate effectively with both technical and non-technical audiences both verbally and in written form. 3. To produce valuable occupational safety and environmental health specialists that act ethically in the practice considering the implications to the health of workers and the environment. 4. To encourage students to pursue lifelong learning to not only maintain professional certifications, but to practice in an ever-changing environment.
4. Will this program be accredited or certified? Yes

 If Yes, name the accrediting or certifying agency. National Environmental Health Science and Protection Accreditation Council (NEHSPAC/EHAC)

 What are the steps for candidacy or initial accreditation? Please include a timeline for each step:

The requirements for accreditation are that 1) the university is accredited by a regional accrediting association for institutions of higher learning and 2) have graduated one or more classes. Pre-accreditation status can be granted for institutions that can reasonably demonstrate that they will meet the criteria for full-accreditation within two years. At the end of this two-year period, the university must apply for full accreditation. See Appendix B for the proposed accreditation timeline.

1. Student population served.

The program in Occupational and Environmental Safety and Health will mainly serve traditional students seeking a bachelor’s degree at the university and desiring to enter the field of environmental health and occupational safety. However, it is also expected that non-traditional students working for nearby industries would be served by this program.

**Program Assessment**

**University Outcomes**

2. Please indicate the university-level student learning outcomes for which this new program will contribute. Please complete the table by adding program level outcomes (PLO) to the first column, and indicating the alignment with the university learning outcomes (ULO). If you need more information about the ULOs, go to the [University Level Outcomes Website](http://www.astate.edu/a/assessment/student-learning-outcomes/files/ULOs%20for%20Website2.pdf).

|  |  |  |  |  |
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|  | **ULO 1: Creative & Critical Thinking** | **ULO 2: Effective Communication** | **ULO 3: Civic & Social Responsibility** | **ULO 4: Globalization & Diversity** |
| **PLO 1**Students will demonstrate critical thinking skills to anticipate, recognize, and evaluate hazards affecting human health and the environment and develop and evaluate effective strategies to solve problems and mitigate risk. | **X** |  | **X** |  |
| **PLO 2**Students will communicate effectively with technical and non-technical audiences verbally and in writing using multiple means including technical summaries, scientific reports, and oral communications.  | **X** | **X** |  |  |
| **PLO 3**Students will act ethically, integrate social, current, and global matters in their practice, demonstrate knowledge of diverse ideas, cultures, and experiences, and pursue lifelong learning to effectively practice in an ever-changing environment.  |  |  | **X** | **X** |

**Program Learning Outcomes**

3. Provide outcomes that students will accomplish during or at completion of this program. Fill out the following table to develop a continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

***Note: Best practices suggest 4-7 outcomes per program; minors would have 1 to 4 outcomes.***

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| **Outcome 1** | Students will be able to apply a broad base of science, mathematics, and communication knowledge to anticipate, recognize, and quantify environmental health and occupational safety hazards.  |
| Assessment Measure | Direct measure: OESH 4003 Internship and OESH 4401 Senior Seminar act as a capstone to the program. Internship preceptors and instructors will be given a detailed evaluation form to fill out upon internship completion to assess for critical thinking skills in anticipating, recognizing and evaluating environmental health and occupational safety hazards. Students will also be given mock certification exams in either environmental health or occupational safety in the OESH 4401 Senior Seminar course. The grade outcomes of these exams will also be used to assess the program. Indirect measures: Students will be given program exit surveys in the OESH 4401 Senior Seminar course to assess the program.  |
| Which courses are responsible for this outcome? | OESH 4003 InternshipOESH 4401 Senior Seminar |
| Assessment Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Julie King, Arkansas State University, College of Nursing & Health Professions, P.O. Box 910, State University, AR 72469, juking@astate.edu 870-972-3920  |

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| **Outcome 2** | Students should be able to communicate occupational and environmental standards, studies, and programs effectively and professionally with a wide range of audiences verbally and in writing through publications, presentations, and technical reports. |
| Assessment Measure | Direct measure: OESH 4003 Internship and OESH 4401 Senior Seminar act as a capstone to the program. Students will be required to give a formal presentation in the OESH 4401 Senior seminar detailing their experiences in the internship. Presentations will be evaluated for communication skills. Internship preceptors and instructors will also give detailed evaluations on the students’ ability to communicate with a variety of audiences. Indirect measures: Students will be given program exit surveys in the OESH 4401 Senior Seminar course to assess the program.  |
| Which courses are responsible for this outcome? | OESH 4003 InternshipOESH 4401 Senior Seminar |
| Assessment Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Julie King, Arkansas State University, College of Nursing & Health Professions, P.O. Box 910, State University, AR 72469, juking@astate.edu 870-972-3920  |

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| **Outcome 3** | Students will be able to design and conduct environmental or workplace studies, experiments, or investigations, then analyze data and draw appropriate conclusions using sound scientific judgement. |
| Assessment Measure | Direct measure: OESH 4003 Internship and OESH 4401 Senior Seminar act as a capstone to the program. Internship preceptors and instructors will be given a detailed evaluation form to fill out upon internship completion to assess for ability to design and conduct detailed workplace studies, experiments, and investigations. Students will also be assessed for their ability to draw sound scientific conclusions using data from these experiments. Students ability to conduct these investigations will also be assessed by program faculty in their formal presentation of their internship experiences required in OESH 4401 Senior Seminar. Indirect measures: Students will be given program exit surveys in the OESH 4401 Senior Seminar course to assess the program.  |
| Which courses are responsible for this outcome? | OESH 4003 InternshipOESH 4401 Senior Seminar |
| Assessment Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Julie King, Arkansas State University, College of Nursing & Health Professions, P.O. Box 910, State University, AR 72469, juking@astate.edu 870-972-3920  |

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| **Outcome 4** | Students should be able to design, analyze, and evaluate environmental health or occupational safety management systems or programs including placing an emphasis on ethical considerations, stakeholder interests, and fiscal responsibility.  |
| Assessment Measure | Direct measure: OESH 4003 Internship and OESH 4401 Senior Seminar act as a capstone to the program. Internship preceptors and instructors will be given a detailed evaluation form to fill out upon internship completion to assess for student’s ability to design, analyze and evaluate OESH programs. Students will also be assessed by program faculty in a formal presentation of their internship experience which will be completed in OESH 4401 Senior Seminar. Students will also be assessed by exam scores on mock certification exams to be taken in the senior seminar course. Indirect measures: Students will be given program exit surveys in the OESH 4401 Senior Seminar course to assess the program.  |
| Which courses are responsible for this outcome? | OESH 4003 InternshipOESH 4401 Senior Seminar |
| Assessment Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Julie King, Arkansas State University, College of Nursing & Health Professions, P.O. Box 910, State University, AR 72469, juking@astate.edu 870-972-3920 |

LETTER OF INTENT – 1

(New Certificate or Degree Program)

1. Institution submitting request:

Arkansas State University – Jonesboro

1. Education Program Contact person/title:

Dr. Julie King, Assistant Professor of Occupational and Environmental Safety and Health

1. Telephone number/e-mail address:

870-972-3920 / juking@astate.edu

1. Proposed Name of Certificate or Degree Program:

Bachelor of Science in Occupational and Environmental Safety and Health

1. Proposed Effective Date:

Fall 2021

1. Requested CIP Code:

51.2206

1. Program Description:

To support the demand for occupational safety and environmental health professionals by a diverse range of industries within Arkansas, Arkansas State University-Jonesboro proposes a new Bachelor of Science degree program in Occupational and Environmental Safety and Health. The curriculum will encompass a variety of disciplines in the preparation of environmental health and occupational safety specialists. Students will develop the necessary skills to recognize, evaluate, and control environmental and occupational hazards. This program will also give students the necessary background to develop and lead environmental health, occupational safety and health programs and aid organizations in maintaining compliance with applicable regulations and industry safety standards.

The goals and outcomes of this program are that students completing this program will find employment in such industries as manufacturing, utilities, construction, chemical plants, hospitals, and the fields of oil and gas. Also, upon completion of a bachelor’s program, students will be qualified to take relevant certification exams. This degree program will be accredited by the National Environmental Health Science and Protection Accreditation Council (EHAC) and will be the only accredited occupational and environmental safety and health Bachelors program in the state.

1. Mode of Delivery (mark all that apply):

 **\_\_X\_\_\_On-Campus**

 **\_\_\_\_\_Off-Campus Location**

 Provide address of off-campus location\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Provide a copy of the e-mail notification to other institutions in the state notifying them of the proposed program. Please inform institutions not to send the response to **“Reply All”**. If you receive an objection/concern(s) from an institution, reply to the institution and copy ADHE on the email. That institution should respond and copy ADHE. If the objection/concern(s) cannot be resolved, ADHE may intervene.

 Submit copy of written notification to Higher Learning Commission (HLC) if notification required by HLC for a program offered at an off-campus location.

 \_\_\_NA\_\_\_Indicate distance of proposed site from main campus.

 **\_\_\_\_NA\_\_Distance Technology** (50% of program offered by distance technology)

 Submit copy of written notification to HLC if notification is required by HLC for a program offered by distance technology.

1. List existing certificate or degree programs that support the proposed program:

General Education and prerequisite requirements will support the first two years of the program.

1. President/Chancellor Approval Date:
2. Academic Affairs Officer: Date:

### PROPOSAL – 1

### NEW DEGREE PROGRAM

1. **PROPOSED PROGRAM TITLE**

Occupational and Environmental Safety and Health -Bachelor of Science

1. **CIP CODE REQUESTED**

51.2206

1. **PROPOSED STARTING DATE**

July 2021

 4. **CONTACT PERSON**

 Name Dr. Susan Hanrahan

 Title Dean College of Nursing and Health Professions

 Name of Institution Arkansas State University

 E-mail Address hanrahan@astate.edu

 Phone Number 870-972-3112

 Name (Program Contact Person) Dr. Julie King

 Title Assistant Professor, Occupational and Environmental Safety and Health

 E-mail Address juking@astate.edu

 Phone Number 870-972-3920

 5. **PROGRAM SUMMARY**

 **General Description**

Occupational and environmental safety and health encompasses a broad range of areas including worker health and safety, community health, and environmental health. In response to increasing government oversight and regulation of these areas, the fields of occupational and environmental safety and health are continuing to grow and require a trained and educated workforce. Access to comprehensive, accredited academic programs of any level in these areas remains extremely sparse within the state. To support the demand for occupational safety and environmental health professionals by a variety of industries within Arkansas, Arkansas State University-Jonesboro proposes a new bachelor’s degree program in Occupational and Environmental Safety and Health (OESH). In accordance with the mission of the College of Nursing and Health Professions to provide quality education to a variety of health professionals which includes students wishing to become occupational safety professionals, industrial hygienists, and environmental and community health specialists. Graduates of the program are necessary to anticipate, recognize, and evaluate health hazards in the community, enforce laws and regulations that protect health and ensure safety, monitor the health status of communities, and evaluate effectiveness and quality of environmental community services.

 Students wishing to receive this degree must meet the demands of an interdisciplinary curriculum of core studies such as biology, chemistry, and statistics along with specialized courses in occupational and environmental safety and health.

 This new bachelor’s degree will include 58 hours of upper level courses in occupational and environmental safety and health. It will culminate in the practical experience of a required 180-hour internship. Students will be admitted to the program after completion of the required basic sciences and required support courses usually at the beginning of their junior year. All students must meet admission requirements to Arkansas State and must meet the undergraduate graduation requirements in order to receive the degree.

 Students completing this program will find employment in such industries as manufacturing, construction, utilities, chemical plants, hospitals, and the fields of oil and gas. Also, upon completion of a bachelor’s program, students will be qualified to take the Associate Safety Professional (ASP) exam which is the precursor to the Certified Safety Professional Exam (CSP). While professional certification is not necessary to enter the fields of occupational and environmental safety and health, this program will aid students in being successful on certification exams such as the Certified Safety Director (CSD) and Certified Industrial Hygiene (CIH) exams.

 This program will be accredited by the National Environmental Health Science and Protection Accreditation Council (NEHSPAC/EHAC) whose role it is to enhance the education and training of students who intend to become environmental health science and protection practitioners and professionals. This will allow students the unique opportunity to intern with the United States Public Health Service and the Centers for Disease Control and Prevention. Students graduating from EHAC accredited programs are also eligible to enter the US Public Health Service as an environmental health officer.

**Include overview of any curriculum additions or modifications**

 The comprehensive curriculum will give students the necessary background in science, math, and health that will prepare students to enter the fields of occupational health and safety, environmental health, and industrial hygiene. General education course work will be consistent with that required to obtain a Bachelor of Science. The program requires 58 hours of upper level undergraduate courses that will include a variety of teaching methodologies and activities. The required program emphasis coursework will be developed that will include occupational health and safety, environmental health management, epidemiology, laws and regulations governing worker safety and environmental health among others. In addition to coursework, an internship of 180 hours will be required.

 **program costs**

 New costs to support the degree program over three years include two faculty lines and a .5 administrative assistant.

 Faculty costs – One 12-month FTE (who has already been hired and is on site) in year one ($85,500 + fringes) and one 9-month faculty line in year one ($60,000- salary and fringes) to support additional coursework at all levels. Adjunct faculty will be added as necessary. The program will be supported by existing faculty within the college or within the university (such as biology).

[See #10 below for more detail]

 **faculty resources**

[See #10 below]

 **Library resources**

 [See #9 below]

 **Facilities and equipment**

Current facilities in the Reynolds Center for Health Sciences were found to be adequate space for a laboratory for occupational and environmental safety and health. The 609 ft2 open space will be outfitted with an audio/visual system at a cost of $6000 to allow for classroom style presentations within the lab. Furniture consisting of table and chairs will also be purchased for the laboratory.

 New occupational safety and environmental monitoring equipment needed for the program will be purchased or acquired through grants, student infrastructure fees, and donated by industry. An initial purchase of relevant instrumentation and computers will cost approximately $65,000.

 **Purpose of the program**

 The Bachelor of Science degree in Occupational and Environmental Safety and Health is an interdisciplinary degree program to prepare occupational and environmental health professionals to effectively meet the needs of both private and public sector employers in the fields of manufacturing, industry, hospital settings, and the fields of oil and gas.

 **List degree programs or emphasis areas currently offered at the institution that support the proposed program.**

 General education and prerequisites requirements will support the first two years of the program. In addition, the College of Sciences and Math has been helpful in suggesting and formulating foundation coursework for the degree.

 6. **NEED FOR THE PROGRAM**

Submit Workforce Analysis Form or Employer Needs Survey (only when workforce data is deficient for the academic disciple within the proposal)

Employer Needs Survey should include the following:

See Appendix C for the Workforce Analysis Form

* Submit numbers that show job availability, corporate demands and employment/wage projections, not student interest and anticipated enrollment.  Focus mostly on state needs and less on regional and national needs, unless applicable to the program.

See Workforce analysis

* Survey data can be obtained by telephone, letters of interest, student inquiry, etc.  Focus mostly on state needs for undergraduate programs; for graduate programs, focus on state, regional and national needs.

NA--workforce analysis is attached

* Provide names and types of organizations/businesses surveyed.

NA—workforce analysis is attached

 Letters of support should address the following when relevant: the number of current/anticipated job vacancies, whether the degree is desired or required for advancement, the increase in wages projected based on additional education, etc.

 See Appendix D for Letters of Support

 Indicate if employer tuition assistance is provided or if there are other enrollment incentives.

 At this time there are no employer provided tuition assistance programs.

 Describe what need the proposed program will address and how the institution became aware of this need.

 Dr Susan Hanrahan, Dean, College of Nursing and Health Professions serves on the Board of Directors of City Water and Light. She noted the inordinate number of environmental, safety and health regulations just for this utility and the hefty responsibility of the safety officer. Asking the CEO about their ability to find and hire qualified people for these positions, she discovered there might be an issue. She followed by making other general queries to business and industry and found there was an actual expressed need.

 The biggest concern from the industry was that many safety officers were getting ready to retire. They had other “non- related academic degrees” when they started the position and learned their job by attending conferences and earning certifications. The field has expanded so much and is regulated so heavily by the federal government that they felt students with academic degrees in this discipline would be much preferred. In addition, their ability to earn certifications would be very beneficial for the company. The industries noted that health and safety compliance are some of the most difficult issues they face. Having graduates with the requisite skill sets that can be used in multiple industry and business settings would be very valuable for our region.

 While the workforce analysis indicated healthy starting salaries for occupational safety specialists, there was a concern that the degree would prove to be too “niche.” One of the reasons for this might be the possible mismatch of the CIP code of the program. There was no option to choose for a program that would encompass both occupational safety and environmental health programs, so the decision was made to go with the Occupational Safety CIP code. Letters of support from local industries indicate that there is and will continue to be a need for this program in our region and the state.

 Indicate which employers contacted the institution about offering the proposed program.

 NA

Indicate the composition of the program advisory committee, including the number of members, professional background of members, topics to be considered by the members, meeting schedule (annually, bi-annually, quarterly), institutional representative, etc.

 A committee comprised of industry and university representatives was formed to discuss and plan program development. Included in the planning were program chairs from the College of Sciences and Math (biology and environmental health), program chair (Disaster Preparedness and Emergency Management) and Dean, College of Nursing and Health Professions, industries such as City Water and Light (utility), Hytrol Conveyor Systems (manufacturing), PECO (poultry processing), Chamber of Commerce, St Bernards (hospital) and Arkansas State University Environmental Health and Safety (academia). Numerous meetings were held which led to support of moving the program forward. In addition, information about accrediting bodies was shared. A decision was made to use NEHSPAC/EHAC. A consultant was hired to develop a preliminary curriculum incorporating their requirements into the draft. He spent two days on campus in addition to conversations with industry. The proposed courses and their descriptions were circulated and vetted by the committee. The committee was also helpful in hiring Dr. Julie King as the program director. Many of the members have offered to teach modules in the curriculum or to serve as adjunct faculty. Going forward, and as a requirement of the accrediting body, NEHSPAC/EHAC, an external advisory committee will be formed from a diverse array of professionals from A-State, local industries, and hospitals. There will be between 7-9 members and they will meet bi-annually to discuss OESH course offerings, internship possibilities, and program evaluations.

 Indicate the projected number of program enrollments for Years 1 - 3.

 For year 1 in the professional curriculum (junior year), 7-10 students are projected. In year 2, 7-10 additional students will be added to the program resulting in 14-20 students matriculating through the curriculum.

 Indicate the projected number of program graduates in 3-5 years.

 Following year 2 of the professional curriculum (senior year), 6-9 program graduates are expected. In the subsequent year, a similar number is expected. Once accreditation is achieved, it is anticipated that enrollment numbers will increase and be capped at 30 per cohort.

7. **CURRICULUM**

#  Provide curriculum outline by semester (include course number and title).

#  (For bachelor’s degree program, submit the 8-semester degree plan.)

 See Appendix A – The 8-semester plan

 Give total number of semester credit hours required for the program, including prerequisite courses.

 The total number of semester credit hours for a Bachelor’s degree is 120 hours.

 General Education hours: 35 hours

 FYE Making Connections: 3 hours

 Core (Support) courses: 24 hours

 Major (Emphasis) courses: 58 hours

 120 hours total

 Identify new courses *(in italics)* and provide course descriptions.

*OESH 3013 Fundamentals of Occupational Health and Safety* - Introduction to major concepts and issues in occupational health and safety, including general principles, human work environment, control of hazards in the occupational environment, and occupational safety and health program requirements.

*OESH 3023 Principles of Environmental Health* - Overview of traditional, emerging, and controversial issues associated with environmental health.

*OESH 3103 Recognition of Occupational Hazards* - Introduction to the principles and practice of Industrial Hygiene through the study of chemical, physical, and biological agents responsible for occupational illness.

*OESH 3113 Toxicology* - Principles of toxicology with industrial and environmental implications and the toxicological effects of certain dangerous substances, chemicals, metals, and environmentally relevant pesticides.

*OESH 3203 Control of Occupational Hazards* – Introduction to control strategies to reduce or eliminate occupational hazards including administrative and engineering controls, ventilation, shielding, noise control, and biohazard, thermal stress and emission control.

*OESH 3223 Industrial Hygiene Sampling and Analysis Laboratory* - Introduction to the most common types of field measurements, sampling collection methods, and laboratory analyses that are used in evaluating occupational health hazards.

*OESH 3303 Water, Wastewater, Solid and Hazardous Waste Treatment* - Water quality, water supply, and wastewater disposal, as well as solid and hazardous waste management, treatment, and disposal technology.

*OESH 3313 Epidemiology and Biostatistics* - Introduction to basic concepts of epidemiology and biostatistics as well as some of the basic techniques of public health and evidence-based medicine.

*OESH 4003 Internship* - Supervised field-based experience in a private or public industrial, hospital, or governmental agency.

*OESH 4013 OSHA Standards and Practices* – Anticipation, identification, and evaluation of health and safety hazards and application of safety and health laws and OSHA regulations.

*OESH 4113 Environmental Health and Safety Management* – Introduction to EHS management principles in both office and industrial settings to develop safer and healthier work environments.

*OESH 4203 Principles of Food Safety and Sanitation* - Principles and techniques applied to the protection of food for human consumption. Emphasis is placed on food safety and proper environmental control measures to minimize health dangers.

*OESH 4213 Construction Safety* – Occupational safety hazards associated with the construction industry. Emphasis is placed on OSHA policies, procedures, as well as construction health and safety principles.

*OESH 4223 Accident Investigation and Analysis*- Introduction to principles and practices for understanding the nature of occupational hazard recognition, accident prevention, loss reduction, and accident investigation analysis.

*OESH 4303 Environmental Risk Assessment* – Introduction to risk analysis and examination of the fundamental aspects of risk, focusing on environmental and public health risks including hazard identification, exposure assessments, and risk communication.

*OESH 4313 Ergonomics* - Introduction to the principles of ergonomics including fundamental terminology, concepts and applications of physiology, anthropometry, biomechanics, and engineering to workplace design.

*OESH 4323 Air Pollution* – Pollutants, health effects, and technologies for controlling emissions.

*OESH 4401 OESH Senior Seminar* – Capstone course covering preparation for job searches, presentations, and certification exam preparation. Students will give formal presentations on their internship.

 Identify required general education courses, core courses and major courses.

 **Required General Education Courses:**

 FYE Making Connections

 CHEM 1013 General Chemistry I

 CHEM 1011 General Chemistry Lab

 ENG 1003 Composition I

 MATH 1023 College Algebra

 ENG 1013 Composition II

 BIOL 2013 Biology of the Cell

 BIOL 2011 Biology of the Cell Lab

 COMS 1203 Oral Communication

 **Social Sciences:**

 **(Choose one of the following):**

 HIST 2763 US History to 1876

 HIST 2773 US History since 1876

 POSC 2103 Intro to US Government

 **(Choose two of the following):**

 ANTH 2233 Intro to Cultural Anthropology

 CMAC 1003 Mass Communications

 ECON 2313 Principles of Macroeconomics

 ECON 2333 Economic Issues and Concepts

 GEOG 2613 Intro to Geography

 HIST 1013 World Civilization to 1660

 HIST 1023 World Civilization since 1660

 POSC 1003 Intro to Politics

 PSY 2013 Intro to Psychology

 SOC 2213 Intro to Sociology

 **Humanities (Choose one of the following):**

 ENG 2003 World Literature to 1660

 ENG 2013 World Literature since 1660

 PHIL 1103 Intro to Philosophy

 **Fine Arts and Humanities (choose one of the following):**

 ART 2503 Fine Arts Visual

 MUS 2503 Fine Arts Musical

 THEA 2503 Fine Arts Theatre

 **Required Support Courses:**

 CHEM 1023 General Chemistry II

 CHEM 1021 General Chemistry II Lab

 PHYS 2133 Survey of Physics for the Health Professions

 CHEM 3103 Organic Chemistry I

 CHEM 3101 Organic Chemistry I Lab

 BIO 2103 Microbiology for Nursing and Allied Health

 BIO 2101 Microbiology for Nursing and Allied Health Lab

 ENG 3063 Writing for STEM

 STAT 3233 Applied Statistics

 BIO 2203 Human Anatomy and Physiology I

 **Major Courses:**

 OESH 3013 Fundamentals of Occupational Health and Safety

 OESH 3023 Principles of Environmental Health

 OESH 3103 Recognition of Occupational Hazards

 OESH 3113 Toxicology

 DPEM 3503 Principles of Disaster Preparedness and Emergency Management

 OESH 3203 Control of Occupational Hazards

 OESH 3223 Industrial Hygiene Sampling and Analysis Laboratory

 OESH 3303 Water, Wastewater, Solid and Hazardous Waste Treatment

 OESH 3313 Epidemiology and Biostatistics

 POSC 4533 Environmental Law and Administration

 OESH 4003 Internship

 OESH 4013 OSHA Standards and Practices

 OESH 4113 Environmental Health and Safety Management

 OESH 4203 Principles of Food Safety and Sanitation

 OESH 4213 Construction Safety

 OESH 4223 Accident and Investigation Analysis

 OESH 4303 Environmental Risk Assessment

 OESH 4313 Ergonomics

 OESH 4323 Air Pollution

 OESH 4401 OESH Senior Seminar

 For each program major/specialty area course, list the faculty member assigned to teach the course.

 All faculty hired to teach in the Occupational and Environmental Safety and Health Program will hold degrees and certifications as outlined by the National Environmental Health Science and Protection Accreditation Council.

 Identify courses currently offered by distance technology (with an asterisk\*) and endnote at the end of the document.

 N/A

 Indicate the number of contact hours for internship/clinical courses.

 According to the National Environmental Health Science and Protection Accreditation Council (NEHSPAC/EHAC) the minimum field practicum or internship hours shall be 180 hours.

 State the program admission requirements.

1. Students must be admitted to Arkansas State University
2. General education requirements must be complete
3. Students must have completed the required support coursework with a “C” average or better. These courses include:

 CHEM 1023 General Chemistry II

 CHEM 1021 General Chemistry II Lab

 PHYS 2133 Survey of Physics for the Health Professions

 CHEM 3103 Organic Chemistry I

 CHEM 3101 Organic Chemistry I Lab

 BIO 2103 Microbiology for Nursing and Allied Health

 BIO 2101 Microbiology for Nursing and Allied Health Lab

 ENG 3063 Writing for STEM

 STAT 3233 Applied Statistics

 BIO 2203 Human Anatomy and Physiology I

 Describe specified learning outcomes and course examination procedures.

 The specified learning outcomes of the program are outlined as follows:

1. Students will be able to apply a broad base of science, mathematics, and communication knowledge to anticipate, recognize, and quantify environmental health and occupational safety hazards.
2. Students should be able to communicate occupational and environmental standards, studies, and programs effectively and professionally with a wide range of audiences verbally and in writing through publications, presentations, and technical reports.
3. Students will be able to design and conduct environmental or workplace studies, experiments, or investigations, then analyze data and draw appropriate conclusions using sound scientific judgement.
4. Students should be able to design, analyze, and evaluate environmental health or occupational safety management systems or programs including ethical considerations, stakeholder interests, and fiscal responsibility.

These outcomes will be examined in a variety of measures including, but not limited to, student and curricular assessment tools, post graduate assessment instruments, and curriculum review. While a licensing exam is not required to enter the field, certification exam pass rates may also be used.

 Include a copy of the course evaluation to be completed by the student.

 See Appendix E for proposed course evaluation

 Include information received from potential employers about course content.

 Potential employers were surveyed to determine the most relevant and beneficial areas of focus for our region. Understanding the accreditation agency (NEHSPAC/EHAC) requires methodology courses in epidemiology, statistical methods, and toxicology.

 In addition, six topic areas are considered the foundational areas of environmental health required by the accreditation board. They are:

* + Air quality control
	+ Food protection
	+ Occupational health and safety
	+ Solid and hazardous material and waste management
	+ Water and Wastewater
	+ Zoonotic and vectorborne diseases and their control

 In addition to these topics, potential employers emphasized the needs for beneficial areas of study including building/construction design, electrical safety, ergonomics, stormwater, environmental health and safety regulations, risk analysis, and emergency response.

 Provide institutional curriculum committee review/approval date for proposed program.

 September 11, 2020

 8. **FACULTY**

 List the names and credentials of all faculty teaching courses for the proposed program. Include college/university awarding degree; degree level; degree field; subject area of courses faculty currently teaching and/or will teach. (For associate degrees and above: A minimum of one full-time faculty member with appropriate academic credentials is required.)

 All faculty hired to teach in the Occupational and Environmental Safety and Health Program will hold degrees and certifications as outlined by the National Environmental Health Science and Protection Accreditation Council (see below)

 Indicate lead faculty member or program coordinator for the proposed program.

 Dr. Julie King, Assistant Professor of Occupational Safety and Environmental Health, juking@astate.edu; 870-972-3920

 Total number of faculty required for program implementation, including the number of existing faculty and number of new faculty. **For new faculty, provide the expected credentials/experience and expected hire date.**

The program director was hired in the spring of 2020 and the other full-time faculty member will be hired in the spring of 2021. If this program is approved, the first class of students will begin in the fall of 2021. All faculty members will meet the requirements as set forth by NEHSPAC/EHAC. Adjunct faculty and content experts will be hired as necessary.

A total of two full time faculty members will be required for program operations. They will be hired based on the accreditation guidelines pertaining to faculty qualifications as follows:

 Faculty1

 1. The faculty member responsible for administering the environmental health science and protection program must be a full-time faculty member qualified for this position by an advanced degree in a relevant academic discipline and pertinent experience relevant to environmental health science (as defined in EHAC Governing Policy 4.3.1.1.1.4, pg. 53).

 2. Two Full-time Equivalents in the environmental health science and protection degree program are to be qualified for their positions by an advanced degree in a relevant academic discipline and/or pertinent experience relevant to environmental health science. Use of environmental health science and protection practitioners as part-time faculty is acceptable to supplement the environmental health science and protection faculty.

 1 From the Requirements for Accreditation of Environmental Health Science and Protection Baccalaureate Degree Programs (Adopted 2016, Updated 2019).

 NEHSPAC/EHAC allows for faculty outside of the program to teach courses or modules and can be counted as 0.3 FTE faculty for every three-hour course taught.

 For proposed graduate programs: Provide the curriculum vita for faculty teaching in the program, and the expected credentials for new faculty and expected hire date. Also, provide the projected startup costs for faculty research laboratories, and the projected number of and costs for graduate teaching and research assistants.

9. **DESCRIPTION OF RESOURCES**

 Current library resources in the field

 See Appendix F for current library resources

 Current instructional facilities including classrooms, instructional equipment and technology, laboratories (if applicable)

 Current instructional facilities include classrooms and laboratories. This includes Smith Hall (90 and 45 seat classroom), Donald W Reynolds Center for Health Sciences (5 classrooms), and the existing College of Nursing and Health Professions building (9 classrooms). The Smart classrooms are technologically enhanced classrooms that foster opportunities for teaching and learning by integrating learning technology, such as computers, specialized software, audience response technology, networking and audiovisual capabilities. One of the existing labs can be shared with the Clinical Laboratory program and includes a functioning fume hood. Two computer labs are available specific to the needs of CNHP students. Existing office space in Smith Hall will be configured for the Occupational and Environmental Safety and Health office complex, including director and faculty offices. Space in the current Reynolds Center for Health Sciences will be converted into a laboratory meeting the needs of the OESH program.

 New instructional resources required, including costs and acquisition plan

10. **NEW PROGRAM COSTS – Expenditures for the first 3 years**

 **New administrative costs (number and position titles of new administrators)**

 Program Director- 12 month - $85,500 + benefits

 **Number of new faculty (full-time and part-time) and costs**

 One full time faculty – 9 month – $60,000 + benefits

 **New library resources and costs**

Library resources will be added as annual allowances to the college are distributed.

 **New/renovated facilities and costs**

Current space in the Reynolds Center for Health Sciences will be converted to a laboratory specific to the needs of occupational and environmental safety and health. The 609 ft2 open space was found to be adequate for the needs of the program and will be converted to OESH laboratory space with minimum reconfiguration. Some instructional equipment to allow the space to also have the capability to serve as a lab/classroom will be needed such as screen/projector, whiteboards, and tables and chairs. Any resources necessary to outfit the lab to accommodate OESH lab work will be provided by the College of Nursing and Health Professions as part of a one-time start up for the program. It is estimated that the costs of these laboratory improvements and necessary lab equipment will cost around $65,000.

 **New instructional equipment and costs**

The fields of environmental health and occupational safety are instrument intensive, so students will benefit from being able to use state of the art equipment. Graduates from the program would have an advantage of having exposure to a variety of environmental and occupational monitoring instrumentation. CNHP will provide start-up funding for an initial purchase of equipment for $65,000. Additional equipment will be acquired through the student Infrastructure Fee and equipment grants. In kind equipment may also be donated by local industry. A table of proposed equipment is shown in Appendix H.

 **Distance delivery costs (if applicable)**

 N/A

 **Other new costs (graduate assistants, secretarial support, supplies, faculty development, faculty/students research, program accreditation, etc.)**

 This program will also seek accreditation through the National Environmental Health Science and Protection Accreditation Council (EHAC). There are fees associated with both applying for and maintaining accreditation. An initial accreditation application fee of $1,500.00 will be paid in Year 3 of the program contingent upon having graduates of the program.

 A faculty development budget of $1,200 per fiscal year shall be given to tenured and tenure-track faculty to cover travel for academic presentations or professional development and equipment or supplies to carry out laboratory/field research.

 An administrative assistant will be shared with athletic training.

 **If no new costs required for program implementation, provide explanation.**

11. **SOURCE OF PROGRAM FUNDING – Income for the first 3 years of program operation**

 If there will be a reallocation of funds, indicate from which department, program, etc.

Provide the projected annual student enrollment, the amount of student tuition per credit hour, and the total cost of the program that includes tuition and fees.

 Tuition will be the primary source of income for program operations. Tuition and fees currently identified for an in-state resident of the OESH program are $297 per credit hour ($218 tuition/$79 fees) The resulting source of funding from tuition for 10 students is projected at $65,400 tuition for one year. After year one, 14-20 students are expected in the program resulting in $130,800 from tuition. Additional funding for the program to make up the difference between tuition revenues and program cost will be funded by the College of Nursing and Health Professions.

 The College of Nursing and Health Professions will provide one-time start-up costs to cover necessary equipment, computers and software, and laboratory re-configuration for the program at a cost of approximately $65,000.

 Indicate the projected annual state general revenues for the proposed program (Provide the amount of state general revenue per student).

 Other (grants [list grant source & amount of grant], employers, special tuition rates, mandatory technology fees, program specific fees, etc.).

**Budget Form**

**Resource Requirements:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1st Year (in dollars) | 2nd Year (in dollars) | 3rd Year (in dollars) |
| Staffing |  |  |  |
| Administrative/ProfessionalProgram Director | $85,500 + benefits | $88,065 + benefits | $90,707 + benefits |
| Full-time faculty (1) (nine month) | $60,000 + benefits | $61,800 + benefits | $63,654 + benefits |
| Part-time faculty |  |  |  |
| Clerical (1/2 administrative assistant) | $11,706 + benefits | $12,057 + benefits | $12,419 + benefits |
|  |  |  |  |
| Equipment and Instructional Materials | $65,000 | $5,000 | $5,000 |
|  |  |  |  |
|  |  |  |  |
| Other Support Services |  |  |  |
| Supplies/Printing | $5,000 | $5,000 | $5,000 |
| Accreditation application fee | NA | NA | $1,500 |
| Professional development | $2,400 | $2,400 | $2,400 |
| Distance Technology | NA | NA | NA |
|  |  |  |  |
| Total | $229,606+ benefits | $174,322 + benefits | $180,680 + benefits |

Planned Funding Sources:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1st year\* (in dollars) | 2nd Year\*\* (in dollars) | 3rd Year (in dollars) |
| New Student Tuition  | $65,400 | $130,800 | $130,800 |
| Student Fees | $23,700 | $23,700 | $23,700 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Total | $89,100 | $154,500 | $154,500 |

(\* Assumes tuition and fees for 10 students in the program completing 15 credit hours per semester; \*\* Assumes tuition and fees for 20 students in the program completing 15 credit hours per semester)

12. **ORGANIZATIONAL CHART REFLECTING NEW PROGRAM**

 Proposed program will be housed in (department/college)

 [See Appendix G for the organizational chart]

13. **SPECIALIZED REQUIREMENTS**

 If specialized accreditation is required for program, list the name of accrediting agency.

 While specialized accreditation is not required, the program will be seeking to be certified by the National Environmental Health Science and Protection Accreditation (NEHSPAC/EHAC) board.

 Indicate the licensure/certification requirements for student entry into the field.

 [N/A]

# Provide documentation of Agency/Board review/approvals (education, nursing--initial approval required, health-professions, counseling, etc.)

 [N/A]

14. **BOARD OF TRUSTEES APPROVAL**

 Provide the date that the Board approved (or will consider) the proposed program.

 Provide a copy of the Board meeting agenda that lists the proposed program, and written documentation of program/unit approval by the Board of Trustees prior to the Coordinating Board meeting that the proposal will be considered.

15. **SIMILAR PROGRAMS**

#  List institutions offering program:

##  Proposed undergraduate program – list institutions in Arkansas

#  The University of Arkansas at Pine Bluff (UAPB) offers a Bachelor of Science in Regulatory Science in the School of Agriculture with the options of Agriculture, Environmental Biology, or Industrial Health and Safety.

 Proposed master’s program – list institutions in Arkansas and region [N/A]

 Proposed doctoral program – list institutions in Arkansas, region, and nation [N/A]

 State why proposed program needed if offered at other institutions in Arkansas or region.

 UAPB offers only an emphasis in a semi-related program, Industrial Health and Safety. The majority of the course work is focused on regulations and regulatory science. The OESH program at A-state will be an accredited program consisting of a combination of course work in environmental health and occupational health and safety.

List institution(s) offering a similar program that the institution used as a model to develop the proposed program.

NEHSPAC/EHAC accredited undergraduate institutions were used as models to develop the program.

Examples of these programs include California State University - Northridge, Findlay University – Findlay, OH, and the University of Wisconsin – Eau Claire.

 Provide a copy of the e-mail notification to other institutions in the state notifying them of the proposed program. Please inform institutions not to send the response to **“Reply All”**. If you receive an objection/concern(s) from an institution, reply to the institution and copy ADHE on the email. That institution should respond and copy ADHE. If the objection/concern(s) cannot be resolved, ADHE may intervene.

 **Note: A written institutional objection/concern(s) to the proposed program/unit may delay Arkansas Higher Education Coordinating Board (AHECB) consideration of the proposal until the next quarterly AHECB meeting.**

16. **DESEGREGATION**

 State the total number of students, number of black students, and number of other minority students enrolled in related degree programs, if applicable.

 Using the Arkansas State University-Jonesboro demographics, 1,836 (13% of total enrollment of 14,085 students) students identified as African-American with another 1,801 (13%) students identifying as non-white, non-African-American.

1. **INSTITUTIONAL AGREEMENTS/MEMORANDUM OF UNDERSTANDING (MOU)**

 If the courses or academic support services will be provided by other institutions or organizations, include a copy of the signed MOU that outlines the responsibilities of each party and the effective dates of the agreement.

 [N/A]

1. **ACADEMIC PROGRAM REVIEW**

 Provide scheduled program review date (within 10 years of program implementation date).

 Accreditation/outcome will be in July 2024.

1. **PROVIDE ADDITIONAL INFORMATION IF REQUESTED BY ADHE** **STAFF**
2. **INSTRUCTION BY DISTANCE TECHNOLOGY**

 If the proposed program will be offered by distance technology, provide the following information:

 Summarize institutional policies on the establishment, organization, funding and management of distance courses/degrees.

 Describe the internal organizational structure that coordinates (development, technical support, oversight) distances courses/degrees.

 Summarize the policies and procedures to keep the technology infrastructure current.

 Summarize the procedures that assure the security of personal information.

 Provide a list of services that will be outsourced to other organizations (course materials, course management and delivery, technical services, online payment, student privacy, etc.).

 [N/A]

**Appendix A, 8-Semester Plan**

(**referenced in #7** - **Undergraduate Proposals Only)**

*Instructions: Please identify new courses in italics*.

|  |
| --- |
| **Arkansas State University-Jonesboro****Degree: Bachelors of Science****Major: Occupational and Environmental Safety and Health****Year:** |
| Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours. **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minimum of 45 hours of upper division credit (3000-4000 level) is required for this degree. |
| **Year 1** |  | **Year 1** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| UC 1013 | FYE Making Connections | 3 | X |  | ENG 1013 | Composition II | 3 | X |
| CHEM 1013 | General Chemistry I | 3 | X |  | CHEM 1023 | General Chemistry II  | 3 |  |
| CHEM 1011 | General Chemistry I – Lab | 1 | X |  | CHEM 1021 | General Chemistry II Laboratory | 1 |  |
| ENG 1003 | Composition I | 3 | X |  | MATH 1023 | College Algebra | 3 | X |
| HIST 1013 | World Civilization to 1660 | 3 | X |  | POSC 2103 | Introduction to US Government | 3 | X |
| BIO 2203 | Human Anatomy and Physiology | 3 |  |  | HIST 1023 | World Civilization Since 1660 | 3 | X |
| **Total Hours** |  |  | 16 |  | **Total Hours** |  |  | 16 |
| **Year 2** |  | **Year 2** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| BIO 2013 | Biology of the Cell | 3 | X |  | BIO 2103 | Microbiology for the Nursing and Allied Health | 3 |  |
| BIO 2011 | Biology of the Cell Laboratory | 1 | X |  | BIO 2101 | Microbiology for the Nursing and Allied Health Laboratory  | 1 |  |
| PHYS 2133 | Survey of Physics for the Health Professions | 3 |  |  | COMS 1203 | Oral Communication | 3 |  |
| ENG 3063 | Writing for STEM | 3 | X |  | STAT 3233 | Applied Statistics | 3 |  |
| CHEM 3103 | Organic Chemistry I | 3 |  |  | ART 2503 | Fine Arts Visual | 3 | X |
| CHEM 3101 | Organic Chemistry I Laboratory | 1 |  |  | PHIL 1103 | Intro to Philosophy | 3 |  |
| **Total Hours** |  |  | 14 |  | **Total Hours** |  |  | 16 |
| **Year 3** |  | **Year 3** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| *OESH 3023* | *Principles of Environmental Health* | 3 |  |  | *OESH 3203* |  *Control of Occupational Hazards* | 3 |  |
| *OESH 3013* | *Fundamentals of Occupational Health and Safety* | 3 |  |  | *OESH 3223* | *Industrial Hygiene Sampling and Analysis Lab* | 3 |  |
| *OESH 3103* |  *Recognition of Occupational Hazards* | 3 |  |  | POSC 4533 | Environmental Law and Administration | 3 |  |
| DPEM 3503 | Principles of Disaster Preparedness and Emergency Management | 3 |  |  | *OESH 3303* | *Water, Wastewater, Solid and Hazardous Waste Management* | 3 |  |
| *OESH 3113* | *Toxicology* | 3 |  |  | *OESH 3313* | *Epidemiology and Biostatistics* | 3 |  |
| **Total Hours** |  | 15 |  |  | **Total Hours** |  | 15 |  |
| **Year 4** |  | **Year 4** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| *OESH 4003* |  *Internship* | 3 |  |  | *OESH 4401*  | *OESH Senior Seminar* | 1 |  |
| *OESH 4013* | *OSHA Standards and Practices* | 3 |  |  | *OESH 4303* | *Environmental Risk Assessment* | 3 |  |
| *OESH 4113* | *Environmental Health and Safety Management* | 3 |  |  | *OESH 4213* | *Construction Safety* | 3 |  |
| *OESH 4203* | *Principles of Food Safety and Sanitation* | 3 |  |  | *OESH 4313* | *Ergonomics* | 3 |  |
|  |  |  |  |  | *OESH 4223* | *Accident Investigation and Analysis* | 3 |  |
|  |  |  |  |  | *OESH 4323* | *Air Pollution* | 3 |  |
| **Total Hours** |  | 12 |  |  | **Total Hours** |  | 16 |  |
| **Total Jr/Sr Hours \_68\_\_ Total Degree Hours \_120\_\_** |
| **Graduation Requirements:** |

**Appendix B: National Environmental Health Science and Protection Accreditation Council (NEHSPAC/EHAC) Accreditation Timeline**

(referenced in #1 of the New Program Proposal Form)

|  |  |
| --- | --- |
| Action | Proposed Date |
| Accept first class into the program | Fall 2021 |
| Graduate first class from the program | Spring 2023 |
| Submit Initial Accreditation Application Form and Fees | Oct. 1, 2023 |
| Submit Self-Study and Outcomes Assessment | Dec. 1, 2023 |
| Site Visit Occurs | Feb./Mar 2024 |
| Initial Accreditation Decision | June/July 2024 |

**Appendix C: Workforce Analysis Form conducted by the ADFA Economic Policy Division**

(referenced in #6 of the New Degree Program Proposal)

Workforce Analysis

Institution: ASU Jonesboro

Program Name: Occupational Health and Industrial Hygiene

Proposed CIP Code: 51.2206

By: ADFA Economic Policy Division

Region: Statewide

Date: September 12, 2019

Arkansas State University Jonesboro proposes to introduce a Bachelor’s degree in Occupational Health and Industrial Hygiene. They describe the program as follows:

*“The curriculum in occupational and environmental safety and health encompasses a variety of disciplines in the preparation of environmental health specialists, industrial hygienists and occupational safety specialists. These specialists are responsible for the assessment and enforcement of standards governing the safety of air, water, food, sewage, noise, radiation, hazardous waste and other materials. They are actively involved in the overall environmental quality within a community and prevention of diseases associated with environmental and other related factors. Individuals conduct health hazard evaluations and recommend controls to minimize the health risk to workers in the occupational environment. They can also assess risk in the workplace, concentrating on acute hazards that could result in immediate injury or death. These individuals are employed by a diverse array of industries (including hospitals), private industry, government organizations, academic institutions and military installations.*

*This program will be accredited by the National Environmental Health Science and Protection Accreditation Council whose role it is to enhance the education and training of students who intend to become environmental health science and protection practitioners/professionals.”*

Increasing regulations in manufacturing increase the need for professionals trained both to make companies comply with the law and to keep the workspace safe for the employees. One of the advantages of this degree is that there’s a need not only from the regulated on the private sector but also the regulator in the public sector. The niche is relatively small compared to other occupations, but the skills won’t have a drop in their demand in the foreseeable future and could also be used out of the state.

A major risk for the program with respect to labor market outcomes is that it may prove to be too niche.

Matching occupations

This field of study is strongly matched with the occupations of Occupational Health and Safety Specialists. This is a well-paid job, with median wages of $30.79 per hour, fairly high for a Bachelor’s degree graduate. It is not very job-rich, however, averaging 50 annual openings statewide, as shown in Table 1.

ASU-Jonesboro suggests that the degree is also matched with the occupation of Environmental Scientists and Specialists, including Health, although this is not one of the occupations which frequently call for Occupational Safety and Health as a hard skill in job postings data. If graduates are qualified for this job, the median hourly earnings, at $27.70 per hour, look fairly good for Bachelor’s degree graduates. Jobs for Environmental Scientists are fewer than for Occupational Health and Safety Specialists.

Occupational Health and Safety Technicians is another occupation matched with the CIP although not with the education level. BS graduates in Occupational Health and Industrial Hygiene may be somewhat overqualified for those jobs, which typically require only a high school diploma. However, median hourly earnings, at $21.33 per hour, are healthy enough to represent a decent workforce outcome for graduates. The occupation is only about one-third as job rich as Occupational Health and Safety Specialists, but still contributes to the overall employability of BS graduates in Occupational Health and Industrial Hygiene.

|  |
| --- |
| Table 1: Jobs For Occupations Proposed As Outlets For ASU’s BS In Occupational And Environmental Safety And Health |
| Description | Jobs | Annual Openings | 2018 - 2025 % Change | 2018 Location Quotient | Typical Entry Level Education | Work Experience Required | Unique Postings from Jun 2018 – May 2019 | Median Hourly Earnings |
| Occupational Health and Safety Specialists | 751 | 50 | 9% | 0.93 | Bachelor's degree | None | 340 | $30.79 |
| Occupational Health and Safety Technicians | 251 | 16 | 8% | 1.31 | High school diploma or equivalent | None | 32 | $21.33 |
| Environmental Scientists and Specialists, Including Health | 405 | 45 | 11% | 0.57 | Bachelor's degree | None | 128 | $27.70 |

*Source: EMSI[[1]](#footnote-1)*

Since these occupations don’t have enough data points, there’s no available data on the distribution of educational attainments except for Occupational Health and Safety Specialists. While a Bachelor’s degree seem is the most common level of education, the number of workers with Master’s degree or higher is almost as high. This might indicate that graduates should eventually aim to continue their education to advance in their careers, or at any rate that they will face competition from people with more advanced degrees, though perhaps less closely matched with the occupation.

|  |
| --- |
| Table 2.A: Distribution Of Educational Attainment For Occupational Health and Safety Specialists Nationwide |
| Soc Code | Occupation | Less than high school diploma | High school diploma or equivalent | Some college, no degree | Associate’s degree | Bachelor’s degree | Postgraduate degree |
| 29-9011 | **Occupational Health and Safety Specialists** | 1.90% | 11.40% | 14.20% | 7.80% | 36.80% | 27.80% |

*Source: EMSI*

From tables 2.b and 2.c we can observe that not only wages are high in general for each of them, but also there is a premium on those whose typical entry level of education is a 4 year degree (except for those at the top of the earnings distribution, though this could be observed due to a small sample). The wage difference between entry level and experienced show vast opportunities to make a career out of those occupations. However, the annual growth seems to be higher in the rest of the nation than in the state.

|  |
| --- |
| Table 2.B: Snapshot Of Occupations Linked To Occupational Health And Industrial Hygiene In Arkansas |
|  | Current | 5-Year History |
| Occupation | Employment | Average Annual Wages | LQ | Unempl Rate | Empl Change | Annual Growth - Arkansas | Annual Growth - USA |
| Occupational Health and Safety Specialists | 722 | $64,600 | 0.91 | 2.4 | 21 | 0.6% | 1.3% |
| Occupational Health and Safety Technicians | 203 | $51,000 | 1.22 | 0.023 | 5 | 0.5% | 1.3 |
| Environmental Scientists and Specialists, Including Health | 362 | $58,500 | 0.53 | 0.02 | 12 | 0.7% | 1.7% |
| Total - All Occupations | 1,325,470 | $41,700 | 1 | n/a | 65887 | 1% | 1.6% |

Source: JobsEQ®

|  |
| --- |
| Table 2.C: Occupation Wages, Average Annual In Arkansas, 2018 |
|  |  |  |  |  | Percentiles | Mean |
| SOC | Occupation | Mean | Entry Level | Experienced | 10% | 25% | 50% (Median) | 75% | 90% | USA |
| 29-9011 | **Occupational Health and Safety Specialists** | $64,600 | $37,100 | $78,400 | $36,700 | $41,600 | $64,100 | $80,900 | $98,900 | $74,900 |
| 29-9012 | **Occupational Health and Safety Technicians** | $51,000 | $28,300 | $62,300 | $27,000 | $31,900 | $44,400 | $59,300 | $94,000 | $55,300 |
| 19-2041 | **Environmental Scientists and Specialists, Including Health** | $58,500 | $41,800 | $66,900 | $38,100 | $48,800 | $57,500 | $64,100 | $79,600 | $77,600 |

Source: JobsEQ®

Table 3 displays the employers that posted more job ads within the last year requiring Occupational Safety and Health as a hard skill. The highest demand comes from either retailers or manufacturers of food.

|  |
| --- |
| Table 3: Top 10 Companies Employing Occupations Requiring Occupational Safety And Health As A Hard Skill |
| Company Name | Total/Unique (Jun 2018 – May 2019) | Median Posting Duration |
| Wal-Mart Stores, Inc. | 369/89 | 44 days |
| Grifols Biologicals Inc. | 389/52 | 32 days |
| Loram Maintenance of Way, Inc. | 94/45 | 33 days |
| Whole Foods Market, Inc. | 137/42 | 15 days |
| Simmons Foods, Inc. | 96/40 | 19 days |
| Virco Mfg. Corporation | 92/28 | 10 days |
| Austin Powder Company | 94/28 | 60 days |
| Arkansas Department of Parks and Tourism | 68/25 | 15 days |
| Stg International, Inc. | 51/21 | 58 days |
| Csl Behring L.L.C | 54/20 | 43 days |

Source: EMSI

Table 4 shows the occupational classification of job postings that list Occupational Safety and Health as a hard skill. While Environmental Scientist is not in the top ten, several other occupations are, starting with Health and Safety Engineers and including three kinds of first-line supervisors. The challenge here is that in some of these occupations, knowledge of occupational safety and health, though useful, is probably a secondary skill, and BS graduates may lack the complementary skills and/or experience needed to be competitive for these jobs.

|  |
| --- |
| Table 4: Unique Job Postings From Jun 2018 – May 2019 For Occupations Require Occupational Safety And Health As A Hard Skill |
| Occupation | **Unique Postings from Jun 2018 – May 2019** |
| Health and Safety Engineers, Except Mining Safety Engineers and Inspectors | 98 |
| Occupational Health and Safety Specialists | 91 |
| First-Line Supervisors of Production and Operating Workers | 89 |
| Heavy and Tractor-Trailer Truck Drivers | 89 |
| Maintenance and Repair Workers, General | 76 |
| First-Line Supervisors of Mechanics, Installers, and Repairers | 61 |
| Healthcare Support Workers, All Other | 60 |
| First-Line Supervisors of Food Preparation and Serving Workers | 40 |
| Helpers--Production Workers | 39 |
| Stock Clerks and Order Fillers | 33 |

Source: EMSI

Both Occupational Health and Safety Specialists and Occupational Health and Safety Technicians are not one-industry occupations and, while Government and Manufacturing are prominent, more than half of the workers are employed in other industries. On the other side, Environmental Scientists and Specialists, Including Health, probably because the occupation is more related to science, almost exclusively work in the government and professional and scientist industries.

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| **Table 5: Distribution Of Industry By Linked Occupation** |
| **Industry** | **Occupational Health and Safety Specialists** | **Occupational Health and Safety Technicians** | **Environmental Scientists and Specialists, Including Health** |
| Administrative and Support and Waste Management and Remediation Services | 5.3% | 5.5% | 1.2% |
| Agriculture, Forestry, Fishing and Hunting | 0.1% | 0.0% | 0.0% |
| Arts, Entertainment, and Recreation | 0.1% | 0.0% | 0.0% |
| Construction | 11.4% | 13.1% | 0.0% |
| Educational Services | 4.5% | 6.0% | 3.0% |
| Federal, State, and Local Government, excluding state and local schools and hospitals and the U.S. Postal Service (OES Designation) | 24.8% | 19.3% | 44.7% |
| Finance and Insurance | 0.5% | 0.0% | 0.0% |
| Health Care and Social Assistance | 5.9% | 7.1% | 0.0% |
| Information | 0.3% | 0.0% | 0.0% |
| Management of Companies and Enterprises | 4.0% | 1.3% | 1.2% |
| Manufacturing | 18.7% | 26.0% | 1.5% |
| Mining, Quarrying, and Oil and Gas Extraction | 4.1% | 4.9% | 0.5% |
| Other Services (except Public Administration) | 0.3% | 0.0% | 2.5% |
| Professional, Scientific, and Technical Services | 10.2% | 8.6% | 44.3% |
| Real Estate and Rental and Leasing | 0.1% | 0.0% | 0.0% |
| Retail Trade | 0.0% | 0.0% | 0.0% |
| Transportation and Warehousing | 6.1% | 5.7% | 0.1% |
| Utilities | 1.9% | 0.0% | 0.9% |
| Wholesale Trade | 1.7% | 2.4% | 0.1% |

Source: Bureau of Labor Statistics, 2018. National data

Job Placement Track Records of Similar Programs

This program is not taught in Arkansas and therefore we can’t see the employment outcome of recent graduates in the state. The closest we can do is to observe the outcomes of other majors that are somewhat related. Table 6 uses public data from Arkansas Research Center, to show wages and employment of individuals within 12 months of graduation, who majored in programs that are referred to in ads for any of the occupations mentioned above.[[2]](#footnote-2)

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| Table 6: Related Programs In Arkansas |
| Degree | School Name | Program | Number Of Graduates | Percent Employed After 1 Year | Average Wage After 1 Year | Percent Employed Full Time After 1 Year | Average Wage If Full Time Employed After One Year |
| Assoc. | South Arkansas Community College | Chemical Technology/Technician | 18 | 83% | $40,676 | 60% | $56,442 |
| Assoc. | U A Community College at Morrilton | Surveying Technology/Surveying | 18 | 83% | $29,777 | 77% | $38,928 |
| Bacc. | University of Arkansas Fayetteville | Bioengineering and Biomedical Engineering | 90 | 31% | $16,279 | 13% | $29,908 |
| Bacc. | University of Arkansas Fayetteville | Biological/Biosystems Engineering | 38 | 45% | $32,983 | 31% | $47,926 |
| Bacc. | **Arkansas State University Jonesboro** | **Biology/Biological Sciences, General** | **101** | **55%** | **$31,579** | **27%** | **$66,105** |
| Bacc. | Arkansas Tech University | Biology/Biological Sciences, General | 63 | 63% | $19,552 | 36% | $33,874 |
| Bacc. | Henderson State University | Biology/Biological Sciences, General | 40 | 52% | $16,154 | 23% | $32,207 |
| Bacc. | Southern Arkansas University - Magnolia | Biology/Biological Sciences, General | 59 | 51% | $13,388 | 19% | $30,083 |
| Bacc. | University of Arkansas Fayetteville | Biology/Biological Sciences, General | 384 | 44% | $16,633 | 20% | $30,382 |
| Bacc. | University of Arkansas - Fort Smith | Biology/Biological Sciences, General | 86 | 57% | $20,039 | 38% | $26,257 |
| Bacc. | University of Arkansas at Little Rock | Biology/Biological Sciences, General | 125 | 66% | $24,850 | 47% | $35,243 |
| Bacc. | University of Arkansas at Pine Bluff | Biology/Biological Sciences, General | 92 | 60% | $18,983 | 26% | $28,411 |
| Bacc. | University of Central Arkansas | Biology/Biological Sciences, General | 150 | 57% | $16,768 | 32% | $28,906 |
| Bacc. | University of Arkansas Fayetteville | Chemical Engineering | 99 | 28% | $58,486 | 23% | $65,876 |
| Bacc. | **Arkansas State University Jonesboro** | **Chemistry, General** | **42** | **52%** | **$13,160** | **17%** | **$25,891** |
| Bacc. | Arkansas Tech University | Chemistry, General | 13 | 85% | $20,211 | 50% | $30,802 |
| Bacc. | University of Arkansas Fayetteville | Chemistry, General | 120 | 37% | $13,198 | 15% | $31,643 |
| Bacc. | University of Arkansas - Fort Smith | Chemistry, General | 31 | 48% | $25,387 | 35% | $36,251 |
| Bacc. | University of Arkansas at Little Rock | Chemistry, General | 27 | 56% | $16,022 | 36% | $31,396 |
| Bacc. | University of Arkansas at Pine Bluff | Chemistry, General | 20 | 75% | $22,488 | 36% | $32,277 |
| Bacc. | University of Central Arkansas | Chemistry, General | 32 | 50% | $26,900 | 40% | $38,991 |
| Bacc. | University of Arkansas Fayetteville | Food Science | 28 | 57% | $47,697 | 52% | $52,506 |
| Bacc. | University of Central Arkansas | Health Professions and Related Clinical Sciences, Other | 140 | 56% | $19,638 | 37% | $38,398 |
| Bacc. | University of Arkansas Fayetteville | Poultry Science | 35 | 60% | $33,656 | 45% | $45,317 |
| Mast. | **Arkansas State University Jonesboro** | **Biology/Biological Sciences, General** | **11** | **45%** | **$29,284** | **40%** | **$35,955** |
| Mast. | University of Central Arkansas | Biology/Biological Sciences, General | 21 | 62% | $27,424 | 37% | $39,201 |
| Mast. | University of Arkansas Fayetteville | Food Science | 26 | 23% | $37,145 | 17% | $54,155 |
| Mast. | University of Arkansas for Medical Sciences | Health/Health Care Administration/Management | 27 | 85% | $56,116 | 81% | $59,909 |

Source: Arkansas Research Center. Economic Security Report, 2018

Finally, Table 7 show the job market performance for all Bachelor’s degree programs at ASU – Jonesboro.

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| Table 7: Percentage Employed And Wages After 12 Months, For Graduates At ASU - Jonesboro |
| Degree | Area | Program | Number Of Graduates | Percent Employed After 1 Year | Average Wage After 1 Year | Percent Employed Full Time After 1 Year | Average Wage If Full Time Employed After One Year |
| Bacc. | ALL |  | 3263 | 71% | $29,899 | 53% | $37,693 |
| Bacc. | Liberal Arts & Sci., Gen. Studies | General Studies | 379 | 72% | $24,238 | 50% | $32,392 |
| Bacc. | Health Professions | Registered Nursing/Registered Nurse | 261 | 79% | $51,714 | 71% | $56,290 |
| Bacc. | Education | Early Childhood Education and Teaching | 237 | 91% | $31,617 | 82% | $33,583 |
| Bacc. | Business, Management & Marketing | Business Administration and Management, General | 189 | 67% | $31,869 | 51% | $37,989 |
| Bacc. | Psychology | Psychology, General | 135 | 79% | $17,148 | 51% | $25,395 |
| Bacc. | Education | Junior High/Intermediate/Middle School Education and Teaching | 119 | 95% | $30,830 | 82% | $32,546 |
| Bacc. | Business, Management & Marketing | Accounting | 115 | 73% | $32,893 | 60% | $35,712 |
| Bacc. | Agriculture | Agribusiness/Agricultural Business Operations | 114 | 71% | $36,330 | 53% | $42,790 |
| Bacc. | Social Sciences | Criminology | 114 | 80% | $24,113 | 61% | $31,687 |
| Bacc. | Health Professions | Medical Radiologic Technology/Science - Radiation Therapist | 105 | 66% | $37,520 | 57% | $42,432 |
| Bacc. | Biological & Biomedical Sciences | Biology/Biological Sciences, General | 101 | 55% | $31,579 | 27% | $66,105 |
| Bacc. | Business, Management & Marketing | Finance, General | 92 | 50% | $26,912 | 33% | $36,328 |
| Bacc. | Parks, Recreation, Leisure & Fitness | Kinesiology and Exercise Science | 90 | 62% | $20,186 | 37% | $33,036 |
| Bacc. | Business, Management & Marketing | Marketing/Marketing Management, General | 59 | 49% | $31,323 | 37% | $34,401 |
| Bacc. | Communication & Journalism | Journalism | 50 | 64% | $24,791 | 49% | $30,443 |
| Bacc. | Health Professions | Audiology/Audiologist and Speech-Language Pathology/Pathologist | 48 | 71% | $17,551 | 57% | $32,825 |
| Bacc. | Communication & Journalism | Communication and Media Studies | 47 | 60% | $21,298 | 36% | $30,129 |
| Bacc. | Education | Physical Education Teaching and Coaching | 47 | 83% | $32,406 | 67% | $36,384 |
| Bacc. | Physical Sciences | Chemistry, General | 42 | 52% | $13,160 | 17% | $25,891 |
| Bacc. | Public Admin. & Social Service | Social Work | 42 | 83% | $21,391 | 67% | $28,128 |
| Bacc. | English Language & Literature | English Language and Literature, General | 39 | 74% | $16,885 | 39% | $25,222 |
| Bacc. | Social Sciences | Sociology | 38 | 74% | $24,820 | 55% | $29,413 |
| Bacc. | Computer & Information Sciences | Computer and Information Sciences, General | 37 | 62% | $39,161 | 56% | $43,790 |
| Bacc. | Education | Music Teacher Education | 37 | 76% | $31,834 | 64% | $36,355 |
| Bacc. | Engineering | Mechanical Engineering | 37 | 68% | $50,064 | 51% | $58,726 |
| Bacc. | Parks, Recreation, Leisure & Fitness | Sport and Fitness Administration/Management | 36 | 67% | $23,864 | 33% | $33,440 |
| Bacc. | Agriculture | Plant Sciences, General | 33 | 67% | $31,054 | 59% | $34,193 |
| Bacc. | Computer & Information Sciences | Data Processing and Data Processing Technology/Technician | 33 | 64% | $35,084 | 59% | $37,339 |
| Bacc. | Business, Management & Marketing | International Business/Trade/Commerce | 33 | 12% | $20,523 | 9% | $25,867 |
| Bacc. | Agriculture | Animal Sciences, General | 32 | 72% | $19,862 | 36% | $32,857 |
| Bacc. | Communication & Journalism | Radio and Television | 29 | 62% | $23,078 | 46% | $28,438 |
| Bacc. | Education | English/Language Arts Teacher Education | 29 | 93% | $27,225 | 60% | $34,443 |
| Bacc. | Visual & Performing Arts | Commercial and Advertising Art | 28 | 46% | $21,763 | 29% | $28,223 |
| Bacc. | Health Professions | Clinical Laboratory Science/Medical Technology/Technologist | 28 | 71% | $37,004 | 58% | $41,137 |
| Bacc. | Engineering Technology | Engineering Technologies and Engineering-Related Fields, Other | 27 | 78% | $44,626 | 62% | $49,113 |
| Bacc. | Visual & Performing Arts | Art/Art Studies, General | 26 | 69% | $22,516 | 52% | $27,530 |
| Bacc. | Engineering | Civil Engineering, General | 25 | 68% | $48,204 | 67% | $50,839 |
| Bacc. | Parks, Recreation, Leisure & Fitness | Health and Physical Education/Fitness, General | 24 | 62% | $18,299 | 29% | $31,237 |
| Bacc. | Education | Social Science Teacher Education | 23 | 83% | $34,479 | 62% | $40,996 |
| Bacc. | Mathematics & Statistics | Mathematics, General | 23 | 61% | $27,605 | 38% | $30,143 |
| Bacc. | History | History, General | 23 | 74% | $14,619 | 35% | $29,339 |
| Bacc. | Natural Resources & Conservation | Wildlife, Fish and Wildlands Science and Management | 17 | 88% | $16,515 | 44% | $25,194 |
| Bacc. | Social Sciences | Economics, General | 16 | 44% | $20,817 | 23% | $35,094 |
| Bacc. | Social Sciences | Political Science and Government, General | 16 | 75% | $14,238 | 36% | $25,064 |
| Bacc. | Communication & Journalism | Radio, Television, and Digital Communication, Other | 15 | 73% | $16,546 | 46% | $23,947 |
| Bacc. | Engineering | Electrical and Electronics Engineering | 15 | 33% | $41,026 | 27% | $49,407 |
| Bacc. | Health Professions | Dietetics/Dietitian | 13 | 69% | $30,087 | 30% | $41,921 |
| Bacc. | Communication & Journalism | Public Relations, Advertising, and Applied Communication, Other | 12 | 50% | $19,905 | 36% | $26,677 |
| Bacc. | Education | Mathematics Teacher Education | 12 | 83% | $30,457 | 70% | $32,097 |
| Bacc. | Foreign Languages & Linguistics | Foreign Languages and Literatures, General | 11 | 73% | $17,088 | 30% | $28,238 |

Source: Arkansas Research Center. Economic Security Report, 2018

**Appendix D: Letters of Support**

(referenced in #6 of the New Degree Program Proposal)

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**Appendix E: Evaluation Instruments**

(referenced in #7 of the Program Proposal)

**Arkansas State University**

**College of Nursing and Health Professions**

**Instructor/Course Survey**

Student evaluations of courses and faculty are conducted through EvalKit online evaluation in BlackBoard. Students will respond to each of the following statements using the options below

0 Strongly Agree

0 Agree

0 Agree Somewhat

0 Disagree

0 Strongly Disagree

0 Did not have this Instructor

From my perspective, the **Professor/Instructor**:

1. Was organized and prepared for this course
2. Feedback given to student was appropriate in relation to assignments and performance
3. Communicated well in English
4. Demonstrated impartial and fair evaluation
5. Provided a positive student-teacher interaction
6. Activities contributed to understanding and skill development
7. Demonstrated punctuality
8. Demonstrated knowledge and understanding of the subject matter
9. Provided learning techniques appropriate for course and lab
10. Interacted with students in a professional manner
11. Provided opportunities for problem solving, multiple viewpoints, and critical thinking
12. Provided adequate explanation of course material
13. Provided an atmosphere in which students felt comfortable asking questions
14. Comments regarding this instructor

From my perspective, the Course:

1. Reading level of the textbook was appropriate
2. Equipment was functional and represented appropriate technology
3. Format for the course facilitated accomplishment of course objectives and goals
4. Course material was sequenced and structured to facilitate the achievement of goals and objectives
5. Textbook covered the “topic”
6. Library had adequate resources for this course
7. Media used added to my learning experience
8. Format for this course (compressed video, we/asynchronous, web-assisted, lecture/discussion, lab, etc…) was help in learning the material and related concepts
9. Additional reading assignments provided opportunities to expand knowledge
10. Comments regarding this course:

**Appendix F: Current Library Resources**

(referenced in #9 of the New Degree Program Proposal)

**2020 Report of the**

**Dean B. Ellis Library, Arkansas State University**

**Occupational and Environmental Safety and Health**

**1. Library Holdings**

The Dean B. Ellis Library has over 320,000 print books in the [online public access catalog](http://dbellis.library.astate.edu/vwebv/searchBasic?sk=en_US) available for faculty, staff, and student checkout. In addition, the Library’s print collection contains over 106,000 government documents, 20,000 microfilm, 8,000 CDs, and 5,100 DVDs. Additionally, over 450,000 eBooks, 40,000 streaming academic videos, and 380,000 streaming albums are readily available in all disciplines. Archives & Special Collections house an additional 15,000 items, many with local and regional significance that cannot be found in any other library. Journals and other periodicals can be accessed through the Library’s [online A to Z journals list](http://ds7av9ek5z.search.serialssolutions.com/ejp/?libHash=DS7AV9EK5Z#/?language=en-US&titleType=JOURNALS). Between 95% to 99% of all 1995 to present journal content is available online. Most journals can also be accessed through one of over [300 databases](https://libguides.astate.edu/az.php) in a wide variety of disciplines.

**1a. Library Holdings in Occupational and Environmental Safety and Health**

As of June 18, 2020, there are over 1,763 print book records in the online public access catalog with subject headings directly related to Occupational and Environmental Safety and Health and 161 records for CDs, DVDs, and other media. Additionally, 5,590 eBooks directly related to Occupational and Environmental Safety and Health are also readily available, as are 4,617 streaming academic videos. Resources can be found through the library’s discovery service, OneSearch; the online public access catalog; the online A to Z journals list; or one of 52 online research databases relating to Nursing & Health Professions (<http://libguides.astate.edu/az.php?s=6718>). The library also maintains late hours and has over 80 computers and 45 study rooms for in-library use.

The Library’s online A to Z journals list (<http://ds7av9ek5z.search.serialssolutions.com/ejp/?libHash=DS7AV9EK5Z#/?language=en-US&titleType=JOURNALS>) reports journal holdings in the following subject areas:

Periodical titles in the discipline category of “Environmental Health”:

 Total titles: 39 serials

Periodical titles in the discipline category of “Nursing”:

 Total titles: 441 serials

Periodical titles in the broad category of “Public Health”:

 Total titles: 1,363 serials

Between 97% to 99% of all 1995 to present journal content is available online and readily accessible off-campus. Students, staff, and faculty may request digital copies of articles and book chapters from our physical collection through our Document Delivery Department (<http://libguides.astate.edu/docdel>).

**2. Library Staffing**

Library services at Arkansas State University are provided through a single central library – the Dean B. Ellis Library. Thus, all students in all programs are referred to the Dean B. Ellis Library, at the center of the campus, for access to all library collections, equipment, and services. The library is a full service library and provides all of the services expected of a university library.

The library is administered/staffed by 31 full time employees:

 A Director of Library Services

 One Assistant Director

 Eight (8) MLS Library Faculty

 One Archivists

 Seventeen (17) Classified Staff

**3. Library Hours**

Library collections, services, and facilities are open to all students and faculty on a uniform schedule throughout the year. The schedules during these periods are:

 Library hours while classes are in session are:

Monday – Thursday - 7:00 am – 1:00 am

 Friday - 7:00 am – 6:00 pm

 Saturday - 12:00 pm – 6:00 pm

 Sunday - 12:00 pm – 1:00 am

Special extended library hours during pre/exam weeks are:

 Monday – Thursday - 7:00 am – 2:00 am

 Friday - 7:00 am – 8:00 pm

 Saturday - 12:00 am – 8:00 pm

 Sunday - 12:00 pm – 2:00 am

 Library hours between sessions are:

 Monday – Thursday - 7:30 am – 5:00 pm

 Friday - 7:30 am – 5:00 pm

 Saturday - Closed

 Sunday - Closed

Online resources and chat assistance are available 24 hours a day, 7 days a week. In addition, over 100 [research guides](https://libguides.astate.edu/) in 27 subject areas are available online through the library’s home page to assist patrons with research, finding information by subject areas, and writing papers.

**4. Library Allocations**

Funding for the acquisition of library resources is provided by a $6 per academic credit hour student Library Fee that is assessed of all A-State students. The total amount of funding available each year is determined by the cumulative number of student semester credit hours.

Library collection development funds are distributed by direct allocation to academic departments based on an established formula that includes such weighted factors as: lower level, upper level and graduate credit hour production; numbers of courses offered at these levels; total degrees awarded per department; the number of FTE faculty in the department; and the national average costs of books and periodical titles for the disciplines. These elements, with appropriate weights applied, provide the basis for objectivity and equity in the awarding of funds.

Through its departmental allocation program, the library encourages all faculty in academic departments to actively participate in the selection of both current and retrospective materials that are appropriate to support student and faculty research and study at all levels of instruction at Arkansas State University.

Additional subscriptions, plus book and media purchases, are made upon selection by librarians to ensure currency of resources.

**4a. Library Allocations to Occupational and Environmental Safety and Health**

The Dean B. Ellis Library’s funding for collection development was permanently reduced by $928,890, effective July 1, 2018. As a result of this funding reduction, all A-State library collection development allocations were reduced accordingly.

The Library Allocation for College of Nursing and Health Professions for FY20 (July 1, 2019-June 30, 2020) was $245,000. The College of Nursing and Health Professions chooses not to divide their Library Allocation funds by department. Faculty within the entire College decide what subject specific databases and subscriptions to obtain from allocated funds.

**5. Equipment and Technology Available**

Approximately 80 fully networked workstations are available to students and faculty inside the Dean B. Ellis Library. All student workstations inside the library are networked to three print release stations. Students may also print from other computers on campus, their laptop, and their mobile device to the release stations. Students are awarded a free print allocation each semester based on their classification and can add additional funds to their account if needed. A public access photocopier and several microforms reader/printers are also available for duplicating services at a cost of 10 cents per page. A digital microform scanner is also available free of charge.

Additionally, two self-service scanners are available for student use at no charge. Scans may be printed, emailed, or saved to a USB flash drive.

**6. Circulation Policies and Procedures**
The borrowing of library materials is permitted for currently enrolled students, currently employed faculty and staff, and other individuals who have been approved with affiliate status for circulation privileges.  All patrons must present a valid A-State photo identification card in order to borrow library materials. The patron is responsible for all material borrowed against their ID. Circulation privileges are not transferable from one person to another. The Service Desk is staffed and open for services during all library hours of operation.

**Circulation Policies**

There is a 30 day loan period for undergraduates for most books and a 45 day load period for graduate students, with 2 online renewals available per item. Undergraduate students may borrow a maximum of 20 items and graduate students a maximum of 40 items at any given time.

Students are charged for lost items, but not charged overdue fines for items from the library’s physical collection. Faculty have an end of semester due date with no limit on number of items borrowed at any given time and 2 online renewals available per item.

**7. Library’s Online Catalog, Interlibrary Loan, and Document Delivery**

Students and faculty have full access to the library’s Voyager catalog and full-text online resources from both on and off-campus via the library proxy server. The Dean B. Ellis Library utilizes ProQuest’s Summon as a discovery search platform. Interlibrary loan and document delivery services are available to students and faculty at no cost, with over 99% of all journal articles requested through Interlibrary Loan being delivered digitally. In addition, digital copies of book chapters and journal articles may be scanned and delivered digitally at no cost. All students are entitled to comparable borrowing privileges at over 40 academic libraries in the State of Arkansas if they obtain an ARKLink borrower’s card (at no cost) from the Dean B. Ellis Library. Participating libraries include all of the major academic libraries in Arkansas, including the University of Arkansas, the University of Central Arkansas and the University of Arkansas at Little Rock.

**8. Reference Coverage**

Reference coverage is available 24 hours a day, 365 days a year. Dean B. Ellis Library personnel provide more than 70 hours per week of coverage for face-to-face, telephone, or email consultation, instruction and assistance. After hours assistance is available via Chatstaff reference services.

**9. Library Liaisons**

Four librarians are assigned selected responsibilities to departments as liaisons in coordinating related library reference, collection development, bibliographic instruction, and the preparation of department/course-specific library literature and resource guides. However, all library faculty may provide basic reference services, library orientation, personal research assistance, and other general library services to all students and faculty in all departments as a result of their availability during a 100-plus schedule of library hours.

Library resources are frequently embedded into course modules in course management platform software. Support for these programs and any issues involving Blackboard and other course management platforms, Respondus, technology development, curriculum revisions, and professional development are provided by a variety of campus services, including the Faculty Center, Information and Technology Services, and the Office of the Provost. Library faculty may, however, assist with library orientation and instruction for any A-State student groups upon request.

**10. Selection of Library Resources**

The library relies heavily on departmental faculty to make selections of new materials to be added to the library collections. All faculty requests are channeled to the Collection Management Department in the library via the departmental faculty liaison to the library. When requests are received from the department liaison, library staff then order and process the materials and they are made available for use.

Additionally, under a unique A-State library program, any student enrolled at Arkansas State University may select and recommend a maximum of three (3) books (per semester) for purchase by the library to supplement library holdings for their research and study. Library faculty are available to assist students in identifying the titles to be purchased. After the books are purchased and processed, the requesting student is notified when the titles are available.

**11. Reporting New Acquisitions**

New acquisitions, if any, are reported on a monthly basis to the faculty liaison from the department. All newly-acquired print books are displayed on the New Books shelves near the Circulation Desk prior to being shelved in the general stacks. Additionally, there is a “New Titles” feature on the library catalog that allows all new materials to be searched by different time frames (within the last 30, 60, or 90 days), by collection, and by call number range.

**12. Library Traffic and User Counts**

Library services at Arkansas State University are provided in and through a single, central library – the Dean B. Ellis Library. Thus, as all students and faculty are referred to the Dean B. Ellis Library for access to collections and resources. Counts for the number of users for specific subject areas are not available. The exit door count for the Dean B. Ellis Library academic year 2018 was 316,248.

**13. Instructional Sessions**

Individual instruction sessions covering basic or specific library resources and skills are available to classes upon instructor request. In the 2018-2019, there were approximately 331 individual library instruction sessions conducted that reached some 6,500 students. Additionally, nine sections of a one credit hour course in basic library and information literacy skills (Introduction to Academic Research) are offered by the Dean B. Ellis Library as an elective in the fall and spring semesters, respectively. An additional three sections of Intro to Academic Research – Biology are also offered each fall and spring semester. Courses and instructors are subject to regular student evaluation in a wide variety of areas and overall evaluations are consistently near or above 4.5 on a 0 – 5 scale, with 5 being the highest ranking possible. Students in the Library’s Introduction to Academic Research and Intro to Academic Research Biology classes are given an information literacy skills pre-test at the beginning and end of the course. During the last cohort of students, post-test averages were 20.39% higher than pre-test averages.



Appendix G:

 Organizational Chart showing the Occupational and Environmental Safety and Health Program

(referenced in #12 in the program proposal)

**Appendix H: Proposed Equipment Purchases**

(referenced in #9 of the New Degree Program Proposal)

|  |  |
| --- | --- |
| **Air Sampling** |  |
| GilAir Plus personal sampling pump | $1,542.00 |
| Gilian Calibrator | $1,688.50 |
| Gas Detector tubes | $87/box of 10 (gases variable) |
| Sensidyne AP-20S Detector tube pump | $526.00 |
| Deluxe Hazmat Kit  | $1,242.00 |
| Gas Meters | $6,000 |
|  |  |
| **Air Velocity/Movement** |  |
| Thermal anemometer | $1,400.00 |
| Other models | $200 /model |
|  |  |
| **Indoor/Environmental Monitoring** |  |
| Indoor Air Quality Meter | $2,400.00 |
| CO monitor for smart phone | $100.00 |
| Indoor climate reader | $1,400.00 |
|  |  |
| **Noise monitoring** |  |
| Sound level meter | $7,000 |
| Calibrator | $1,500 |
|  |  |
| **Respiratory Protection** |  |
| Portacount respiratory fit testing station | $15,000 |
|  |  |
| **Heat Stress Monitoring** |  |
| Pocket Heat Stress Monitor | $110.00 |
|  |  |
| **Electrical Safety** |  |
| Digital Multimeter | $500.00 |
|  |  |
| Consumables (cartridges/filter media/tedlar bags etc.) | $5,000.00 |
|  |  |
| **Computers** |  |
| Dell Workstation x 4 | $4,000.00 |
| Software | $3,000.00 |
| **Laboratory needs** |  |
| Audio-Visual equipment | $6,000.00 |
| Mettler Toledo portable balance | $1,100.00 |
| Mettler Toledo New Classic ME Analytical Balance | $3,400.00 |
| Hot-plate stirrer | $500.00 each x 3 |
| Adjustable volume pipettors | $200.00 each x 5 |
| Analytical syringes | $500.00 each x 2 |
| Balance Anti-vibration table | $700.00 |
| Explosion proof undercounter refrigerator | $4,500 |
| Stand alone filtered air fume hood + installation | $5,500 |

**Bulletin Changes**

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| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.** **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  |

 ***\*For new programs, please insert copy of all sections where it will be referenced.\****

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**Bachelor of Science (B.S.)**

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| Accounting |
| Biological Sciences (emphasis in):—Biology—Botany—Pre-professional Studies—Zoology |
| Biotechnology |
| Business Administration—Sustainable Business Practices |
| Business Economics |
| Chemistry:—Pre-Health Profession Studies |
| Clinical Laboratory Science |
| Communication Disorders |
| Computer and Information Technology |
| Computer Science |
| Creative Media Production (emphasis in):—Corporate Media—Graphic Communication—Sports Media |
| Dietetics |
| Digital Innovations (emphasis in):—Graphic Communications—Strategic Communications |
| Disaster Preparedness/Emergency Mgmt. |
| Environmental Science |
| Exercise Science |
| Finance (emphasis in):—Banking—Financial Management |
| Global Supply Chain Management |
| Health Promotion |
| Health Studies |
| Interdisciplinary Studies |
| International Business |
| Land Surveying and Geomatics |
| Management (emphasis in):—Hospitality Management—Human Resource Management—International Business |
| Marketing:* International Business
* Logistics
* Marketing Analytics
* Sales
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| Mathematics |
| Multimedia Journalism |
| Physics |
| Occupational and Environmental Safety and Health |
| Psychology |
| Sport Management: |
| Strategic Communication (emphasis in):—Advertising—Public Relations—Social Media Management |
| Engineering Technology (emphasis in):—Computer Aided Drafting and Design—Computer Systems—Technical Studies—Technology Management |
| Wildlife, Fisheries and Conservation (em- phasis in):—Fisheries—Wildlife |

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**Colleges and Departments (cont.)**

**COLLEGE OF LIBERAL ARTS AND COMMUNICATION**

Department of Art + Design Department of Communication

Department of Criminology, Sociology, and Geography Department of English and Philosophy

Department of History

School of Media and Journalism Department of Music Department of Political Science Department of Theatre

Department of World Languages and Cultures

**COLLEGE OF NURSING AND HEALTH PROFESSIONS**

School of Nursing

Department of Clinical Laboratory Sciences

 Department of Communication Disorders

Department of Medical Imaging and Radiation Sciences

Department of Occupational Therapy

Department of Physical Therapy

Department of Social Work

Athletic Training Program

Disaster Preparedness & Emergency Management Program

Health Studies Program

Dietetics Program

### Occupational and Environmental Safety and Health Program

**COLLEGE OF SCIENCES AND MATHEMATICS**

Department of Biological Sciences Department of Chemistry and Physics Department of Mathematics and Statistics

**INDEPENDENT DEPARTMENTS / AREAS**

English Learning Academy

Library and Information Resources Department of Military Science

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| **2nd Degree Accelerated BSN**March 15 for August Interim enrollment. A baccalaureate degree in another discipline plus all major required support courses must be completed by the end of the Spring semester.Students seeking readmission, advance standing or transfer credit for nursing courses must be aware that nursing knowledge changes rapidly. Therefore, if three or more years have elapsed since the previous education experience, students may be required to meet additional requirements before progression in a specific nursing program. |
| **RN to BSN Online**To facilitate movement through the BSN curriculum for students who have previously completed an AASN or Diploma program, a specially designed track has been developed for registered nurses who have demonstrated clinical proficiency. This track is fully online and may be completed part- or full-time. The clinical capstone component will be individualized based upon the applicant and will utilize a local clinical facilitator. The length of study depends upon previous college credits and the courses needed to fulfill BSN requirements. Most RNs with an associate degree can complete the BSN program in two years or less of full-time study. |
| **Associate of Applied Science in Nursing**June 7 for admission to the Fall semester for LPN to AASN students at campus site and distance- learning sites; October 1 and June 7 for transfer/readmission for subsequent semester. Deadline for traditional AASN program at the Mountain Home and West Memphis campuses is October 1st. Ap- plicants must complete required prerequisite support courses with a cumulative GPA of 2.0 or better. A “C” or better must be earned in ALL required courses. Applicants for admission will be ranked based upon prerequisites, admission testing scores, and overall GPA. All traditional AASN applicants must have CNA certification from Arkansas Office of Long Term Care or an equivalent state recognized CNA certification. All LPN to AASN applicants must have an unencumbered nursing license. |
| **Online LPN To Associate of Applied Science in Nursing**April 15 for admission to the Fall semester for Online LPN to AASN students. Applicants must complete required prerequisite support courses with a cumulative GPA of 2.5 or better. A “C” or better must be earned in ALL required courses. All Online LPN to AASN applicants must have an unencum- bered nursing license and MUST be residents of the state of Arkansas. |
| **Dietetics - Bachelor of Science**April 1 after sophomore year for admission in Fall semester.In order for students to apply for admission into the Coordinated Program in Dietetics, they must meet the following conditions: cumulative GPA of 2.8 on a 4.0 scale of all college work attempted; English proficiency requirements, if foreign born; completion of program prerequisites with a minimum grade of “C” required in all courses; complete HESI A2 admission exam.Class size is limited due to the availability of supervised practice sites. All applicants may notbe accepted into the program. |
| Occupational and Environmental Safety and Health – Bachelor of ScienceStudents wishing to pursue the Bachelor of Science in Occupational and Environmental Safety and Health (OESH) must apply to Arkansas State University and meet all admission requirements established by the university. Students must apply and be accepted into the program in order to begin upper level OESH classes. All general education and support courses must be completed with a grade of “C” or better.  |
| **Occupational Therapist Assistant - Associate of Applied Science**Students must apply for admission into the Occupational Therapy Assistant program by March 1 for Fall enrollment. Prior to admission into the program students must complete 28 prerequisite course hours with a minimum grade of “B” required in all prerequisite courses. |
| **Physical Therapist Assistant - Associate of Applied Science**Students are encouraged to declare as Physical Therapist Assistant (PTA) majors. Students may apply to the PTA program during the spring semester of the year in which they plan to start the program. Application deadline is March 1 of each year. |
| **Doctor of Physical Therapy**A-State does offer the Doctor of Physical Therapy degree (DPT). Deadlines for application can be obtained by contacting the program office at (870) 972-3591. |
| **Social Work — Bachelor of Social Work**Students must be admitted to the program before they will be allowed to take Social Work major courses. Students must have a minimum of 45 hours with a GPA of at least 2.75 overall. Generally, students will be admitted during the second semester of their sophomore year. Consideration for admission to the program will be in the spring semester. Specific due dates for materials will be posted on the notice board outside the departmental office. Students should follow the criteria in the Social Work Student Handbook available on the web. |

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**Occupational and Environmental Safety and Health Program**

*Assistant Professor Julie King, Program Director*

**Assistant Professors:**

The program in Occupational and Environmental Safety and Health will provide a comprehensive and quality education to students wishing to become occupational safety or environmental health practitioners in a variety of industries represented in the lower Mississippi Delta region, the state of Arkansas, and beyond. The program curriculum will encompass a wide variety of basic areas of study including science, mathematics, statistics, and communication followed by more specialized coursework in occupational safety and environmental health topics. Students will also have the opportunity to gain relevant experience in partnership with community private or public sector industry in an internship towards the end of their graduate career. Upon completion of this program, graduates will be able to enter their respective fields as general practitioners and be prepared to complete certification exams necessary for career advancement. This program will give students the necessary background to develop and lead occupational and environmental safety and health programs and aid organizations in maintaining compliance with applicable environmental, health and industry safety regulations.

**PROGRAM PREREQUISITES**

1. Completion of the A-State admission process with acceptance
2. General education requirements must be complete
3. Completion of program support coursework with a “C” average or better.

**PROBATION, RETENTION, AND READMISSION**

 Refer to Probation, Retention and Readmission Policies in the College of Nursing and Health Professions.

**Major in Occupational and Environmental Safety and Health**

*Bachelor of Science*

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| **University Requirements:** |  |
| See University General Requirements for Baccalaureate degrees (p. 42) |  |
| **First Year Making Connections Course:** | **Sem. Hrs.** |
| UC 1013, Making Connections | **3** |
| **General Education Requirements:** | **Sem. Hrs.** |
| See General Education Curriculum for Baccalaureate degrees (p. 78)**Students with this major must take the following:***MATH 1023, College Algebra or MATH course that requires MATH 1023 as a prerequisite**CHEM 1013 and CHEM 1011 General Chemistry and Lab**BIO 2013 and BIO 2011 Biology of the Cell and Lab**COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option)* | **35** |
| **Major Requirements:** | **Sem. Hrs.** |
| OESH 3013 Fundamentals of Occupational Health and Safety | 3 |
| OESH 3023 Principles of Environmental Health | 3 |
| OESH 3103 Recognition of Occupational Hazards | 3 |
| OESH 3113 Toxicology | 3 |
| OESH 3203 Control of Occupational Hazards | 3 |
| OESH 3223 Industrial Hygiene Sampling and Analysis Laboratory | 3 |
| OESH 3303 Water, Wastewater, Solid and Hazardous Waste Treatment | 3 |
| OESH 3313 Epidemiology and Biostatistics | 3 |
| DPEM 3503 Principles of Disaster Preparedness and Emergency Management | 3 |
| OESH 4003 Internship | 3 |
| OESH 4013 OSHA Standards and Practices | 3 |
| OESH 4113 Environmental Health and Safety Management | 3 |
| OESH 4203 Principles of Food Safety and Sanitation | 3 |
| OESH 4213 Construction Safety | 3 |
| OESH 4223 Accident Investigation and Analysis | 3 |
| OESH 4303 Environmental Risk Assessment | 3 |
| OESH 4313 Ergonomics | 3 |
| OESH 4323 Air Pollution | 3 |
| OESH 4401 OESH Senior Seminar | 1 |
| POSC 4533 Environmental Law and Administration | 3 |

### Major in Occupational and Environmental Safety and Health (cont.)

*Bachelor of Science*

A complete 8-semester degree plan is available at [https://www.astate.edu/info/academics/degrees/](http://www.astate.edu/info/academics/degrees/)

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| **Sub-total** | **58** |
| **Required Support Courses:***Prior to beginning the junior year, students must complete the following courses.* | **Sem. Hrs.** |
| BIO 2203, Anatomy and Physiology I | 3 |
| Select one of the following: BIO 2103 and BIO2101 Microbiology and Lab for Nursing and Allied HealthBIO 4104 Microbiology | 4 |
| PHYS 2133 Survey of Physics for the Health Professions | 3 |
| CHEM 1023 and CHEM 1021 General Chemistry II and Lab | 4 |
| CHEM 3103 and CHEM 3101 Organic Chemistry and Lab | 4 |
| ENG 3063 Writing for STEM | 3 |
| STAT 3233 Applied Statistics | 3 |
| **Sub-total** | **24** |
| **Total Required Hours:** | **120** |

**Page 534 Course Descriptions**

**Occupational and Environmental Safety and Health (OESH)**

**OESH 3013 Fundamentals of Occupational Health and Safety** - Introduction to major concepts and issues in occupational health and safety, including general principles, human work environment, control of hazards in the occupational environment, and occupational safety and health program requirements. Admission to the Occupational and Environmental Safety and Health Program required. Fall.

**OESH 3023 Principles of Environmental Health** - Overview of traditional, emerging, and controversial issues associated with environmental health. Admission to the Occupational and Environmental Safety and Health Program required. Fall.

**OESH 3103 Recognition of Occupational Hazards** - Introduction to the principles and practice of Industrial Hygiene through the study of chemical, physical, and biological agents responsible for occupational illness. Admission to the Occupational and Environmental Safety and Health Program required. Fall.

**OESH 3113 Toxicology** - Principles of toxicology with industrial and environmental implications and the toxicological effects of certain dangerous substances, chemicals, metals, and environmentally relevant pesticides. Admission to the Occupational and Environmental Safety and Health Program required. Fall.

**OESH 3203 Control of Occupational Hazards** – Introduction to control strategies to reduce or eliminate occupational hazards including administrative and engineering controls, ventilation, shielding, noise control, and biohazard, thermal stress and emission control. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3013, OESH 3023, OESH 3103, and OESH 3113, and DPEM 3503. Spring.

**OESH 3223 Industrial Hygiene Sampling and Analysis Laboratory** - Introduction to the most common types of field measurements, sampling collection methods, and laboratory analyses that are used in evaluating occupational health hazards. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3013, OESH 3023, OESH 3103, OESH 3113, and DPEM 3503. Spring.

**OESH 3303 Water, Wastewater, Solid and Hazardous Waste Treatment** - Water quality, water supply, and wastewater disposal, as well as solid and hazardous waste management, treatment, and disposal technology. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3013, OESH 3023, OESH 3103, OESH 3113, and DPEM 3503. Spring.

**OESH 3313 Epidemiology and Biostatistics** - Introduction to basic concepts of epidemiology and biostatistics as well as some of the basic techniques of public health and evidence-based medicine. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3013, OESH 3023, OESH 3103, OESH 3113, and DPEM 3503. Spring.

**OESH 4003 Internship** - Supervised field-based experience in a private or public industrial, hospital, or governmental agency. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3203, OESH 3223, OESH 3303, OESH 3313, and POSC 4533. Fall.

**OESH 4013 OSHA Standards and Practices** – Anticipation, identification, and evaluation of health and safety hazards and application of safety and health laws and OSHA regulations. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3203, OESH 3223, OESH 3303, and OESH 3313. Fall.

**OESH 4113 Environmental Health and Safety Management** – Introduction to EHS management principles in both office and industrial settings to develop safer and healthier work environments. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3203, OESH 3223, OESH 3303, OESH 3313, and POSC 4533. Fall.

**OESH 4203 Principles of Food Safety and Sanitation** - Principles and techniques applied to the protection of food for human consumption. Emphasis is placed on food safety and proper environmental control measures to minimize health dangers. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 3203, OESH 3223, OESH 3303, OESH 3313, and POSC 4533. Fall.

**OESH 4213 Construction Safety** – Occupational safety hazards associated with the construction industry. Emphasis is placed on OSHA policies, procedures, and standards as well as construction health and safety principles. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 4003, OESH 4013, OESH 4113, and OESH 4203. Spring.

**OESH 4223 Accident Investigation and Analysis**- Introduction to principles and practices for understanding the nature of occupational hazard recognition, accident prevention, loss reduction, and accident investigation analysis. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 4003, OESH 4013, OESH 4113, and OESH 4203. Spring.

**OESH 4303 Environmental Risk Assessment** – Introduction to risk analysis and examination of the fundamental aspects of risk, focusing on environmental and public health risks including hazard identification, exposure assessments, and risk communication. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 4003, OESH 4013, OESH 4113, and OESH 4203. Spring.

**OESH 4313 Ergonomics** - Introduction to the principles of ergonomics including fundamental terminology, concepts and applications of physiology, anthropometry, biomechanics, and engineering to workplace design. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 4003, OESH 4013, OESH 4113, and OESH 4203. Spring.

**OESH 4323 Air Pollution** – Pollutants, health effects, and technologies for controlling for emissions. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 4003, OESH 4013, OESH 4113, and OESH 4203. Spring.

**OESH 4401 OESH Senior Seminar** – Capstone course covering preparation for job searches, presentation, and certification exam preparation. Students will give formal presentations on their internship. Admission to the Occupational and Environmental Safety and Health Program required. Prerequisites, OESH 4003, OESH 4013, OESH 4113, and OESH 4203. Spring.

1. Note: different sources (EMSI, JobsEQ) might have different estimations. [↑](#footnote-ref-1)
2. Note that the percentages of graduates with earnings do not reflect perfectly job market outcomes. Graduates who moved out of state, or decided to become sole proprietor, or pursued a higher degree would not be counted among those with earnings. [↑](#footnote-ref-2)