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

**NEW OR MODIFIED COURSE PROPOSAL FORM**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

|  |
| --- |
| **[X]New Course, [ ]Experimental Course (1-time offering), or [ ]Modified Course (Check one box)** |

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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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Julie B. King 8/7/2020 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| |  |  | | --- | --- | | Mary Elizabeth Spence | 9/4/2020 | | **Office of Assessment** |  | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Shanon Brantley 08/26/2020 **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| \_\_Susan Hanrahan\_\_\_\_\_\_\_\_ 8/27/2020 **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **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](mailto:juking@astate.edu) 870-972-3920

1. **Proposed starting term and Bulletin year for new course or modification to take effect**

Fall 2021, Bulletin year 2021-2022.

**Instructions:**

*Please complete all sections unless otherwise noted. For course modifications, sections with a “Modification requested?” prompt need not be completed if the answer is “No.”*

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|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** |  | **OESH** |
| **Number\*** |  | **4303** |
| **Title** |  | **Environmental Risk Assessment** |
| **Description\*\*** |  | 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. |

***\**** (Confirm with the Registrar’s Office that number chosen has not been used before and is available for use. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*. )

\*\*Forty words or fewer as it should appear in the Bulletin.

1. **Proposed prerequisites and major restrictions** **[Modification requested? Yes/No]**

(Indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

1. **Yes** Are there any prerequisites?
   1. If yes, which ones?

Must be admitted to OESH program.

OESH 4003 Internship

OESH 4013 OSHA Standards and Practices

OESH 4113 Environmental Health and Safety Management

OESH 4203 Principles of Food Safety and Sanitation

* 1. Why or why not?

This course requires a basic knowledge of statistics to interpret risk analysis and toxicology is necessary to understand exposures assessments and dose-response relationships. Students enrolled in the OESH program/major should have also completed the prerequisite coursework and some OESH coursework.

1. **Yes** Is this course restricted to a specific major?
   1. If yes, which major? **Occupational and Environmental Safety and Health**
2. **Proposed course frequency [Modification requested? Yes/No]**

(e.g. Fall, Spring, Summer; if irregularly offered, please indicate, “irregular.”) *Not applicable to Graduate courses.*

**Spring**

1. **Proposed course type [Modification requested? Yes/No]**

Will this course be lecture only, lab only, lecture and lab, activity (e.g., physical education), dissertation/thesis, capstone, independent study, internship/practicum, seminar, special topics, or studio? Please choose one.

**Lecture**

1. **Proposed grade type [Modification requested? Yes/No]**

What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

**Letter grade**

1. **No** Is this course dual-listed (undergraduate/graduate)?
2. **No** Is this course cross-listed?

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross-listed course.)*

**a.** – If yes, please list the prefix and course number of the cross-listed course.

Enter text...

**b.** – **Yes / No** Can the cross-listed course be used to satisfy the prerequisite or degree requirements this course satisfies?

Enter text...

1. **Yes**  Is this course in support of a new program?

a. If yes, what program?

**Occupational and Environmental Safety and Health**

1. **No** Will this course be a one-to-one equivalent to a deleted course or previous version of this course (please check with the Registrar if unsure)?

a. If yes, which course?

Enter text...

**Course Details**

1. **Proposed outline** **[Modification requested? Yes/No]**

(The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

|  |  |
| --- | --- |
| Week | Topic/Assignments |
| 1 | Introduction to Environmental Health Risk Assessment |
| 2 | Risk Assessment and Hazard Identification |
| 3 | Probability and Statistics Review |
| 4 | Toxicology: Ecological Risk and Dose Response |
| 5 | Exposure Assessment and Evaluation |
| 6 | Exposure Assessment Continued: monitoring |
| 7 | Exposure Assessment: mass-balance modeling |
| 8 | Risk Characterization |
| 9 | Risk Assessment Paradigm; introduction to risk modeling |
| 10 | Analytical Approaches/models/uncertainty |
| 11 | Risk Assessment Software/modeling risk calculations with random variables |
| 12 | Dose-response assessment for chemicals in the environment: introduction and dose calculation |
| 13 | Estimating Dose-Response from toxicology studies |
| 14 | Limitations of toxicologic data in animals as the basis for human health risk assessment |
| 15 | Introduction: Estimating dose-response from epidemiology data |
|  |  |

1. **Proposed special features** **[Modification requested? Yes/No]**

(e.g. labs, exhibits, site visitations, etc.)

1. **Department staffing and classroom/lab resources**

Traditional classroom setting

1. Will this require additional faculty, supplies, etc.?

Yes, a faculty member with a degree in environmental/public health will be hired and is planned for.

1. **No** Does this course require course fees?

*If yes: please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

Enter text...

**New Course Justification (New Courses Only)**

1. Justification for course. Must include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Risk assessment fundamentally involves the integration of knowledge across many disciplines including statistics, epidemiology, and toxicology. This course aims to explore all the major components of risk assessment including how to make critical calculations and then considering the implications for policy and public health. Although risk assessment can cover several domains, the focus of this course will be on quantifying the risks to human health of exposure to chemicals and pathogenic microorganisms. Students will be expected to apply the US EPA’s Ecological Risk Assessment Framework by completing an environmental risk assessment.

b. How does the course fit with the mission of the department? If course is mandated by an accrediting or certifying agency, include the directive.

The core mission of the College of Nursing and Health Professions is to provide a comprehensive and quality education to students seeking careers in various areas of health professions including environmental health specialists. The mission of the OESH program is 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, and 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. The Environmental Health Science and Protection Accreditation Council the council that we will be seeking accreditation from, mandates that students should be able to demonstrate have cross cutting knowledge in the areas of the analysis and reduction of environmental risk of which risk assessment is an integral part.

c. Student population served.

This course will serve those students that are enrolled in the OESH Bachelor of Science program.

d. Rationale for the level of the course (lower, upper, or graduate).

Offering this course as an upper level course allows students to apply skills and knowledge gained in lower level science courses such as toxicology and statistics both of which are prerequisitess in the OESH program.

**Assessment**

**Assessment Plan Modifications (Course Modifications Only)**

1. **Yes / No** Do the proposed modifications result in a change to the assessment plan?

*If yes, please complete the Assessment section of the proposal*

**Relationship with Current Program-Level Assessment Process (Course modifications skip this section unless the answer to #18 is “Yes”)**

1. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

The intended program-level outcomes for students enrolled in this course are to develop critical thinking skills and to learn to analyze and reduce environmental risk. Students are also expected to develop writing and communication skills consistent with the program-level outcomes.

Critical thinking skills will be reinforced.

Communication skills at various levels will be reinforced.

1. Considering the indicated program-level learning outcome/s (from question #19), please fill out the following table to show how and where this course fits into the program’s 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.*

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| **Program-Level Outcome 1 (from question #23)** | SLO – 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. |
| 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. |
| Assessment  Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Course faculty and program chair: Julie King, Arkansas State University, College of Nursing & Health Professions, P.O. Box 910, State University, AR 72469, [juking@astate.edu](mailto:juking@astate.edu) 870-972-3920 |

*(Repeat if this new course will support additional program-level outcomes)*

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| **Program-Level Outcome 2 (from question #23)** | SLO – 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. |
| Assessment  Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Course faculty and program chair: Julie King, Arkansas State University, College of Nursing & Health Professions, P.O. Box 910, State University, AR 72469, [juking@astate.edu](mailto:juking@astate.edu) 870-972-3920 |

**Course-Level Outcomes**

1. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

|  |  |
| --- | --- |
| **Outcome 1** | Describe common, regulated, and emerging environmental contaminants |
| Which learning activities are responsible for this outcome? | Lectures  Assigned readings  Homework Assignments  Discussion board posts |
| Assessment Measure | Discussion Board Rubric Benchmark 85% |

*(Repeat if needed for additional outcomes)*

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| **Outcome 2** | Describe various approaches to risk management |
| Which learning activities are responsible for this outcome? | Lectures  Assigned readings  Homework Assignments  Exams |
| Assessment Measure | Final Exam Rubric Benchmark 85% |

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| **Outcome 3** | Learn the basic process and fundamental steps involved in conducting a qualitative and quantitative risk assessment. |
| Which learning activities are responsible for this outcome? | Blackboard discussion posts  Written assignments  Exams  Homework assignments |
| Assessment Measure | Final Exam Rubric Benchmark 85% |

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| **Outcome 4** | Identify primary and multiple exposure/transmission routes of environmental hazards |
| Which learning activities are responsible for this outcome? | Lectures  Assigned readings  Homework Assignments  Written assignments  Exams |
| Assessment Measure | Final Exam Rubric Benchmark 85% |

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| **Outcome 4** | Practice writing a health risk document and presenting environmental health risk assessment information. |
| Which learning activities are responsible for this outcome? | Lectures  Assigned readings  Homework Assignments  Written assignments  Exams |
| Assessment Measure | Final Paper/environmental health risk assessment presentation rubric 85% |

**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.** |

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Insert

**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 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 OESH 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 |

**Page 534 Course Descriptions**

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

**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.