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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)**

Dr. Julie King, juking@astate.edu; 870-932-3920

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

***\**** (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 the OESH program

OESH 3013 Fundamentals of Occupational Health and Safety

OESH 3103 Recognition of Occupational Hazards.

OESH 3023 Principles of Environmental Health

OESH 3113 Toxicology

DPEM 3503 Principles of Emergency Management

* 1. Why or why not?

To understand and interpret epidemiological data, a basic understanding of statistics is needed. This course will go more in depth into statistics as they relate to public health data. Students taking this course should also be admitted to the OESH major/program and will need to have completed the prerequisites prior to taking this course.

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 only**

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])

**Standard 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? Yes

a. If yes, what program?

Occupational Safety and Environmental 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.)

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| Week | Topic/Assignments |
| 1 | Introduction and Foundations of Epidemiology |
| 2 | Design Strategies in Descriptive Epidemiology |
| 3 | Descriptive Statistics in Epidemiology – Part 1 |
| 4 | Descriptive Statistics in Epidemiology – Part 2 |
| 5 | General Health and Population Indicators |
| 6 | Design Strategies and Statistical methods in Analytic Epidemiology |
| 7 | Producing Data – Confounding, Sampling, Bias, and Experiments |
| 8 | Inferential Statistics – Part I  Probability, Sampling Distributions, Confidence Intervals, Tests of Significance, Type I and II errors |
| 9 | Inferential Statistics – Part II  T-tests, Chi-square tests, ANOVA |
| 10 | Experimental Studies in Epidemiology |
| 11 | Causality |
| 12 | Chronic Disease Epidemiology |
| 13 | Clinical Epidemiology |
| 14 | Analysis of Case Studies |
| 15 | Public Health Surveillance |
|  |  |

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

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

none

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

Traditional classroom setting

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

No

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)

A basic understanding of epidemiology is fundamental to public and environmental health. Students should complete this course with a better understanding of how to read, interpret, and conduct epidemiological studies. Students should be able to describe both descriptive and analytic epidemiology and perform basic statistical analyses related to the occurrence of diseases and public health. Students should also be able to describe the processes, uses, and evaluation of public health surveillance and describe the stops of an outbreak investigation.

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 occupational health and safety. 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.

Students need to have a basic understanding of epidemiology. The National Environmental Health Science and Protection Accreditation Council (NEHSPAC/EHAC), the council that we will be seeking accreditation from, mandates that students should must complete separate coursework in epidemiology which is considered a part of the core environmental health knowledge areas.

c. Student population served.

This course is a required course for any student to fulfill the requirements for the bachelors of Occupational and Environmental Safety and Health.

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

Students must have completed lower level courses in statistics. Allowing this course to be an upper level course ensures that students will have had an opportunity to complete those courses which will form a foundation for the more advanced topics in epidemiology such as applied statistics and toxicology.

**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 program level outcomes for this course are PLO-1 and PLO-3 for our program:

PLO – 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.

This course will emphasize the development of statistical analysis skills and promote critical thinking.

PLO- 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.

After this course, students should be able to design and interpret a basic epidemiological study. Critical thinking skills 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)** | 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. |
| Assessment  Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Course faculty and Dr. Julie King, Assistant Professor of Occupational and Environmental Safety and Health, Program Chair, juking@astate.edu, 870-932-3920. |

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

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| **Program-Level Outcome 3 (from question #23)** | 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. |
| Assessment  Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Course faculty and Dr. Julie King, Assistant Professor of Occupational and Environmental Safety and Health, Program Chair, juking@astate.edu, 870-932-3920. |

**Course-Level Outcomes**

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

|  |  |
| --- | --- |
| **Outcome 1** | Utilize the basic terminology and definitions of epidemiology to define public health problems in terms of magnitude, person, place, and time. |
| Which learning activities are responsible for this outcome? | Lectures  Homework assignments,  Written assignments  Discussion board posts |
| Assessment Measure | Final Exam Rubric Benchmark 80% |

*(Repeat if needed for additional outcomes)*

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| **Outcome 2** | Describe key features and applications of descriptive and analytic epidemiology. |
| Which learning activities are responsible for this outcome? | Lectures  Homework assignments,  Written assignments  Discussion board posts |
| Assessment Measure | Final exam rubric benchmark 85% |

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| **Outcome 3** | Utilize basic statistical techniques in the analysis and presentation of epidemiological data. |
| Which learning activities are responsible for this outcome? | Lectures  Exams  Homework assignments,  Written assignments  Discussion board posts |
| Assessment Measure | Final Presentation Rubric Benchmark 85% |

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| **Outcome 4** | Describe the steps in an outbreak investigation |
| Which learning activities are responsible for this outcome? | Lectures  Exams  Homework assignments,  Written assignments  Discussion board posts |
| Assessment Measure | Discussion Board Rubric 85% |

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| **Outcome 5** | Apply and interpret measures of disease occurrence and correlates in populations. |
| Which learning activities are responsible for this outcome? | Lectures  Exams  Homework assignments,  Written assignments  Discussion board posts |
| Assessment Measure | Final Presentation Rubric Benchmark 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 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.