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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.”*

|  |  |  |
| --- | --- | --- |
|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** |  | **OESH** |
| **Number\*** |  | **4313** |
| **Title** |  | **Ergonomics** |
| **Description\*\*** |  | Introduction to the principles of ergonomics including fundamental terminology, concepts and applications of physiology, anthropometry, biomechanics, and engineering to workplace design. |

***\**** (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? Yes
   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

Why or why not?

A basic understanding of human body muscle structure is needed as a foundation for the study of the disorders in ergonomics which include many musculoskeletal disorders. Students admitted to the OESH program should also have completed the required prerequisites work and other OESH coursework up to this course.

1. **Yes** Is this course restricted to a specific major? Yes
   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.** –**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 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)? No

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 Ergonomics |
| 2 | Anthropometry |
| 3 | Office Ergonomics and Administrative Controls |
| 4 | Elements of an Ergonomics Program |
| 5 | Biomechanics |
| 6 | Biomechanics continued |
| 7 | Hand tools |
| 8 | Vibration |
| 9 | Industrial Workstation Design |
| 10 | Manual material handling |
| 11 | NIOSH Lifting Equation |
| 12 | Work-related musculoskeletal disorders |
| 13 | Ergonomic Assessment tools |
| 14 | More assessment tools |
| 15 | Ergonomics and the healthcare industry |
|  | Final Exam |

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. **Yes / No** Does this course require course fees? No

*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)

**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)

This course is an introduction to the principles of ergonomics and introduces the fundamentals including terminology, concepts, and applications of physiology, anthropometry, biomechanics, and engineering to work place and work methods design. It will also review the health impacts, injuries, and occupational illnesses resulting from a lack of ergonomic design. Students will identify ergonomic risk factors, select the appropriate assessment tool, and conduct a detailed ergonomic risk assessment. Students will learn how to improve or enhance workplace design to improve worker health and productivity in a variety of settings.

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. Three goals of the OESH program are 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, to produce graduates that are able to communicate effectively with both technical and non-technical audiences both verbally and in written form, 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 ergonomics and workplace design in order to anticipate and recognize hazards in the workplace related to poor fit of the worker to the work task. The National Environmental Health Science and Protection Accreditation Council (NEHSPAC/EHAC), the council that we will be seeking accreditation from, mandates that students should be able to demonstrate a competency and have been exposed to most topic areas in foundational Environmental Health. One of the six core areas assigned by the council is Occupational Health and Safety. Ergonomics is a fundamental area of occupational health and safety impacting workers in nearly every industry.

c. Student population served.

This course is required for students who have been admitted to the OESH program.

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

Offering this as an upper level course allows students to apply technical skills to advanced knowledge associated with an advance OESH topic such as ergonomics. The level and content of this course will be consistent with upper level academic coursework and will rely upon students having completed coursework in both the OESH program and Anatomy and Physiology.

**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?

Program level outcomes emphasize critical thinking skills, writing skills, investigation skills, and development of occupational and environmental health and safety programs. Each of these will be reinforced in this course. As an upper level course all four of the program-level course outcomes will be emphasized.

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.*

|  |  |
| --- | --- |
| **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, Program Chair Occupational and Environmental Safety and Health, juking@astate.edu, 870-972-3920 |

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

|  |  |
| --- | --- |
| **Program-Level Outcome 2 (from question #23)** | 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 Dr. Julie King, Program Chair Occupational and Environmental Safety and Health, juking@astate.edu, 870-972-3920 |

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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, Program Chair Occupational and Environmental Safety and Health, juking@astate.edu, 870-972-3920 |

|  |  |
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| **Program-Level Outcome 4 (from question #23)** | 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. |
| 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. |
| Assessment  Timetable | Annually |
| Who is responsible for assessing and reporting on the results? | Course faculty and Dr. Julie King, Program Chair Occupational and Environmental Safety and Health, 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** | Conduct on-site ergonomic risk assessment of specific job tasks and analyze workplace design using principles of anthropometry, occupational biomechanics, workplace physiology and epidemiology |
| Which learning activities are responsible for this outcome? | Lectures  Readings  Homework assignments  In class exercises to assess for ergonomic design |
| Assessment Measure | Final exam rubric benchmark 85% |

*(Repeat if needed for additional outcomes)*

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| **Outcome 2** | Apply the NIOSH lifting equation for manual material handling and develop interventions based on lift equation parameters |
| Which learning activities are responsible for this outcome? | Lectures  readings  Homework assignments |
| Assessment Measure | NIOSH lifting assignment rubric benchmark 85% |

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| **Outcome 3** | Conduct ergonomic risk assessments using assessment tools such as REBA, RULA, HAL, and the revised strain index. |
| Which learning activities are responsible for this outcome? | Lectures  Readings  Ergonomic risk assessment activities/discussion board |
| Assessment Measure | Direct measure: Risk Assessment rubric Benchmark 85% |

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| **Outcome 4** | Evaluate and recommend engineering, administrative, and personal protective equipment controls to reduce or eliminate hazards. |
| Which learning activities are responsible for this outcome? | Lectures  Readings  Homework  exams |
| Assessment Measure | Final Exam rubric Benchmark 85% |

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| **Outcome 5** | Conduct cost-benefit analysis and return on investments (ROI) for the justification of ergonomic interventions. |
| Which learning activities are responsible for this outcome? | Risk assessment assignment  Lectures  Readings  homework |
| Assessment Measure | Final risk assessment 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 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.