

# KENT STATE UNIVERSITY CERTIFICATION OF CURRICULUM PROPOSAL

Preparation Date **24-Sep-15** Curriculum Bulletin \_\_\_\_\_

Effective Date **Fall 2016** Approved by EPC \_\_\_\_\_

Department **Biostatistics, Environmental Health and Epidemiology**  
 College **PH - Public Health**  
 Degree **Minor (non degree)**  
 Program Name **Environmental Health Sciences** Program Banner Code **EHS**  
 Concentration(s) \_\_\_\_\_ Concentration(s) Banner Code(s) \_\_\_\_\_  
 Proposal **Establish program**

**Description of proposal:**

**This proposal seeks to develop a new minor in the College of Public Health. The minor in Environmental Health Sciences is intended for students that have a strong interest or curricular focus in a natural science major. The minor provides students with foundational concepts in Environmental Health as it relates to the broad field of Public Health and allows students to choose elective courses that meet their interests and help to augment their degree program. This includes students in a variety of majors including but not limited to Biology, Chemistry, Geology, Geography, Physics, Botany, and Zoology.**

**Students who complete the required coursework and have 30 hours of coursework in biology, chemistry, physics, geology, math, or statistics can pursue a Sanitarian in Training (SIT) career path in State of Ohio agencies to become a Registered Sanitarian (RS) and are well equipped to enter the workforce in a variety of career paths.**

Does proposed revision change program's total credit hours?  Yes  No  
 Current total credit hours: **0** Proposed total credit hours **18**

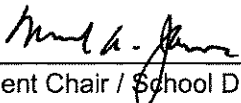
Describe impact on other programs, policies or procedures (e.g., duplication issues; enrollment and staffing considerations; need; audience; prerequisites; teacher education licensure):

**There will be minimal impact on programs in the college as all courses are currently offered.**

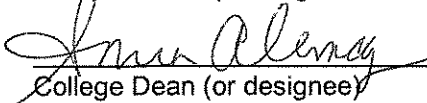
Units consulted (other departments, programs or campuses affected by this proposal):

**Internal Departments, Chemistry, Biology, Geology, Geography and the College of Arts and Sciences**

**REQUIRED ENDORSEMENTS**

 10/19/15  
 Department Chair / School Director

\_\_\_\_\_  
 Campus Dean (for Regional Campuses proposals) 1/1

 10/15/15  
 College Dean (or designee)

\_\_\_\_\_  
 Dean of Graduate Studies (for graduate proposals) 1/1



**Transmittal Memo**

**Date:** October 23, 2015

**To:** Therese Tillett, Director Curriculum Services  
Educational Policies Council (EPC)

**From:** College of Public Health Curriculum Committee  
Dr. Tara Smith  
Dr. Sheryl Chattfield  
Dr. Thomas Brewer  
Ken Slenkovich  
Dr. Sonia Alemagno

**Re:** Minor in Environmental Health Sciences

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On behalf of the College of Public Health, please find the attached materials and proposal to allow the college to develop a new minor in Environmental Health Sciences.

The minor in Environmental Health Sciences is intended for students that have a strong interest or curricular focus in a natural science major. The minor provides students with foundational concepts in Environmental Health as it relates to the broad field of Public Health and allows students to choose elective courses that meet their interests and help to augment their degree program. This includes students in a variety of majors including but not limited to Biology, Chemistry, Geology, Geography, Physics, Botany, and Zoology.

Students who complete the required coursework and have 30 hours of coursework in biology, chemistry, physics, geology, math, or statistics can pursue a Sanitarian in Training (SIT) career path in State of Ohio agencies to become a Registered Sanitarian (RS) and are well equipped to enter the workforce in a variety of career paths.

**College of Public Health**

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**Proposal Summary**  
**Minor in Environmental Health Sciences**  
**Dept. of Biostatistics, Environmental Health Sciences, & Epidemiology**  
**College of Public Health**  
**October, 2015**

**Description of Action, Including Intended Effect**

The department proposes to offer a Minor in Environmental Health Sciences (EHS) within our existing BSPH in Environmental Health Sciences Program. The program coordinator is Charles Hart, PhD, CIH, CSP, RS. The minor in Environmental Health Sciences is intended for students that have a strong interest or curricular focus in a natural science major. The minor provides students with foundational concepts in Environmental Health as it relates to the broad field of Public Health. It also allows students to choose elective courses that meet their interests and help to augment their degree program. This may include students in a variety of majors, including but not limited to, Biology, Chemistry, Geology, Geography, Physics, Botany, and Zoology.

Students who complete the required courses and have 30 hours of coursework in biology, chemistry, physics, geology, math, or statistics can pursue a Sanitarian in Training (SIT) career path in State of Ohio agencies and become a Registered Sanitarian (RS). Such students are well equipped to enter the workforce in a variety of career paths. Board Certification is required to work in EHS at agencies in Ohio. This minor will also make students more desirable in other EHS career areas such as industry.

**Impact on Other Programs, Course Offerings, Students, Faculty, Staff (e.g., duplication issues)**

This program should not duplicate any courses as they already exist in the BSPH in EHS Program. It would open up new career paths for students in a variety of the natural science areas, increase their marketability to employers, and increase their range of career options. The department believes that the addition of good students from other science disciplines will actually enhance our EHS program and courses as well. Our faculty and staff have met with a number of science departments and they indicated support for the program as it will expand the marketability of their students and offer another career path for those interested in environmental health. In addition, the field-based focus of our program, which includes 4 - 4 hour field/labs in each course during the semester, offers practical experience which is valued by potential EHS employers.

### **Fiscal, Enrollment, Facilities and Staffing Considerations**

The faculty, resources, and equipment for this program already exist in our relatively new BSPH in EHS Program. As a new program, there is space for more students in the EHS courses, and would thus accommodate additional science students in our courses and field labs without further resources at this time.

### **Evidence of Need and Sustainability if Establishing**

The job market in EHS is extensive and ranges from many agencies at the local, state, and federal level, to universities, consulting companies, healthcare, R&D, and throughout almost every industry sector. There are approximately 125 health departments in Ohio alone that employ EHS professionals; however many positions are filled with natural science students without EHS training. Although such students often have the requisite 30 semester hours of basic science required by the State Registered Sanitarian (RS) Board, they often lack formal training in environmental health sciences. The Minor in EHS would satisfy this need and make it easier for natural science students to find EHS jobs and to pass the mandatory Ohio RS Exam.

The dire need for a professionally trained EHS workforce across the nation is outlined in the report "Strategic Options for CDC Support of the Local, State, and Tribal Environmental Public Health Workforce", A Report from the Office of Workforce and Career Development to the National Center for Environmental Health/ Agency for Toxic Substances and Disease Registry, February 2009. The report states:

"Four of every five public health employees lack formal public health training (see Appendix C, Perlino 2006). Similar studies report that 90% of the environmental workforce does not hold a formal public health or environmental health degree"

"Not enough (EHS) generalists, as opposed to specialists, are coming out of the education system. Both are needed. Generalists are in short supply at the bachelor's degree level, and they will be needed even more in the future to protect the public's health. This will only get worse in the next 10 years as the current generation retires. No influx of new workers is available to replace these retirees"

"Approximately 300 students graduate from accredited environmental health programs every year, and approximately half of them go into the private sector. However, the need for new workers is in the thousands annually. The current supply of graduates from accredited environmental health programs cannot meet the demands for workers in public health departments"

### **Provisions for Phase-Out if Inactivating**

NA

**Timetable and Actions Required:** *a chronology of actions required to approve the proposal with an anticipated implementation date for each action*

All courses already exist in our BSPH program. The proposed Minor in EHS course outline is attached here. The Minor has been approved by the Department of Biostatistics, Environmental Health Sciences, & Epidemiology and the College of Public Health Curriculum Committees.

Timeline

November, 2015 - Seek EPC approval (obtain EPC approval)

Fall, 2016 – Start the Minor in EHS Program

**Proposed Environmental Health Sciences (EHS) Minor (18 Hours)**  
**College of Public Health**

**Catalog Description**

The minor in Environmental Health Sciences is intended for students that have a strong interest or curricular focus in a natural science major. The minor provides students with foundational concepts in Environmental Health as it relates to the broad field of Public Health and allows students to choose elective courses that meet their interests and help to augment their degree program. This includes students in a variety of majors including but not limited to Biology, Chemistry, Geology, Geography, Physics, Botany, and Zoology.

Students who complete the required coursework and have 30 hours of coursework in biology, chemistry, physics, geology, math, or statistics can pursue a Sanitarian in Training (SIT) career path in State of Ohio agencies to become a Registered Sanitarian (RS) and are well equipped to enter the workforce in a variety of career paths. This Board Certification is required to work in EHS at agencies in Ohio.

**General Requirements**

**Students are encouraged to work with the EHS program coordinator on course selection based on your career goals and course availability.**

**Required Courses (12 hours):**

PH 30006, Introduction to Environmental Health & Safety (must be taken first)  
 PH 30105, Water and Wastewater Management  
 PH 30102, Air Quality and Pollution Control  
 PH 30101, Solid and Hazardous Waste Management

**Elective Courses (6 hours):**

PH 30009, Environmental Health and Safety Regulations and Policy  
 PH 30106, Environmental Toxicology  
 PH 30103, Food Protection  
 PH 30110, Hazardous Materials Management  
 PH 41000, EOHS Management  
 PH 40101, Introduction to Occupational Health & Safety  
 PH 40200, Built Environments  
 PH 40109, Laboratory Hygiene & Biosafety  
 PH 40100, Vector-borne and Zoonotic Disease  
 PH 40112, Institutional and Recreational Environments  
 PH 40020, Disaster Preparedness

We would market this to:

Biology majors  
Geology major  
Chemistry majors  
Geography majors  
Other science majors

Students who have between 18-13 hours of electives:

Earth Science majors  
Organismal Biology majors  
Physics majors  
Molecular and Cellular Biology majors  
Botany majors  
Materials Chemistry majors  
Environmental Geology majors  
Zoology majors

Students with less than 10 hours of electives:

Environmental Conservation Biology majors  
Biochemistry majors  
Biotechnology majors  
Physics – Applied Mathematics majors  
Physics – Biological Sciences majors  
Physics – Chemistry majors

**James, Mark**

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**From:** SHERIDAN, SCOTT  
**Sent:** Monday, October 05, 2015 2:38 PM  
**To:** Hart, Francis  
**Subject:** Re: EHS Minor

Dear Dr. Hart:

I am writing to express my support for the newly proposed Environmental Health Sciences minor. I feel that the minor would be of substantial interest to our Geography majors. We have an increasing number of students who focus on the Geographic Information Sciences track of our major in particular who have an interest in applying geographic analysis to public health research, as this is one of the key focuses of our GIS | Health and Hazards Lab. We think that offering students the option of this minor would further broaden their skill set and make them more competitive on the job market.

Regards,

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**Scott Sheridan, Ph.D.**

Editor-in-Chief, *International Journal of Biometeorology*

Associate Editor, *Science of the Total Environment*

Professor and Acting Chair

Department of Geography, Kent State University, Kent, Ohio 44242 USA

<http://sheridan.geog.kent.edu/>



**James, Mark**

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**From:** HOLM, DANIEL  
**Sent:** Thursday, October 01, 2015 4:57 PM  
**To:** Hart, Francis  
**Subject:** Re: EHS Minor

Hi Chuck: Geology supports this program. best, Daniel

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**From:** Hart, Francis  
**Sent:** Thursday, October 1, 2015 2:27 PM  
**To:** HOLM, DANIEL; LEFF, LAURA; TUBERGEN, MICHAEL; SHERIDAN, SCOTT  
**Cc:** James, Mark; HALEY, MARY ANN  
**Subject:** EHS Minor

All,  
Thank you for attending our meeting on 8/11/15 regarding our proposed Minor in Environmental Health Sciences. The consensus of the group seemed to be that it was a good idea and would open up additional employment opportunities for students in the various science disciplines. We have made the adjustments you requested to make it more flexible (attached) for your students. If all goes well we hope to have it available for Fall 2016.

I would like to request from you a letter/email in support of the program for our proposal. If you might be able to do that by Oct. 15, that would be much appreciated!

Thanks!

*Chuck*

Charles Hart, PhD, CIH, CSP, RS  
Associate Professor, Environmental Health Sciences  
Undergraduate EHS Coordinator  
Kent State University  
College of Public Health  
Dept. of Biostatistics, Environmental Health Sciences, and Epidemiology  
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College of Public Health

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**James, Mark**

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**From:** HALEY, MARY ANN  
**Sent:** Thursday, October 08, 2015 12:48 PM  
**To:** James, Mark  
**Subject:** RE: EHS Minor, College of Public Health

Hello Mark,

The College of Arts and Sciences supports the establishment of an Environmental Health Science minor in the College of Public Health. We anticipate some of our science majors will take advantage of the course offerings and the minor.

Best regards,  
Mary Ann

Mary Ann Haley, Ph.D.  
Associate Dean  
College of Arts and Sciences  
Kent State University  
105 Bowman Hall  
330-672-8968

**From:** James, Mark  
**Sent:** Tuesday, October 06, 2015 9:27 AM  
**To:** HALEY, MARY ANN  
**Subject:** RE: EHS Minor, College of Public Health

Hi Mary Ann,

I am following up to see if your college would be able to provide the necessary support statement for our proposed EHS minor. We have received letters of support from Drs. Sheridan (Geography) and Holm (Geology).

Thank you very much!

Mark

Mark A. James, Ph.D.  
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and Epidemiology  
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