

## COMMISSION FOR HIGHER EDUCATION

Friday, March 11, 2011

### DECISION ITEM A-2:

#### **Doctor of Philosophy in Environmental Health To Be Offered by Indiana University Bloomington at Bloomington**

#### **Staff Recommendation**

That the Commission for Higher Education approve the Doctor of Philosophy (Ph.D.) in Environmental Health to be offered by Indiana University Bloomington at Bloomington, in accordance with the background discussion in this agenda item and the *Abstract*, February 25, 2011; and

That the Commission recommend no new state funds, in accordance with the supporting document, *New Academic Degree Program Proposal Summary*, February 25, 2011.

#### **Background**

As defined by the World Health Organization, “environmental health addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviours ... it is targeted towards preventing disease and creating health-supportive environments.” Environmental factors include nutrition, diet, lifestyle choices (such as smoking), occupational exposures, and toxicants in water, air, soil, and consumer products.

Indiana University seeks authorization to offer the Ph.D. in Environmental Health, which will focus on two areas: (1) environmental toxicology and (2) rural and global environmental health. With respect to the latter, rural environmental health issues share commonalities with global ones, e.g. exposure to pesticides and herbicides in rural areas of the U.S. is not dissimilar to similar exposures in less developed countries.

Purdue University West Lafayette has a related Ph.D. in Occupational and Environmental Health. While there is some inevitable overlap between the IU and Purdue programs – e.g. both require a foundation in toxicology and have core courses in this area – there are important differences in what the two programs emphasize and the research orientations of their faculty. Essentially, the Purdue program places more emphasis on how occupational and industrial factors affect health, and includes different areas of focus, such as ergonomics, whereas the IU program will emphasize more the environmental impacts on human health, especially as they relate to rural populations.

It should also be noted that the IU program incorporates the competencies required by the Council on Education for Public Health (CEPH) to become a program accredited by that body, and the University intends to seek accreditation. The Purdue program is not accredited by CEPH.

The resources on the Bloomington campus to offer this program were recently bolstered when several faculty – including Dr. James Klaunig, who is an internationally respected researcher in the fields of Chemical and Environmental Toxicology/Carcinogenesis, Risk Assessment and Susceptibility – re-located to Bloomington from the IU School of Medicine, IUPUI campus. Dr. Klaunig previously was Director of the Center for Environmental Health in the School of Medicine on the IUPUI campus (and is a former State Toxicologist for Indiana), and currently chairs the Department of Environmental Health at IU Bloomington. Researchers in Environmental Health at the Bloomington campus have brought in a total of \$14.7 million in external research funding since January 1, 2004.

The program is intended to ultimately have an impact on the health of the state's population, which ranks well below the national average regarding risk factors resulting in disability and death, with two-thirds to three-quarters of the states having lower rates of preventable deaths than Indiana. Employment prospects for graduates are good, with the Society of Toxicology reporting that nationwide there are only about 9,000 toxicologists prepared at the doctoral level and there are more than 400 openings for such individuals. The most recent data indicates there are over 700 government and private industry openings in Environmental Health.

This program has sufficient merit on its own to warrant consideration for action by the Commission. Authorization of this program by the Commission should be considered independent of any later decision about establishing one or two schools of public health in Indiana.

### **Supporting Documents**

- (1) *Abstract – Doctor of Philosophy in Environmental Health To Be Offered by Indiana University Bloomington at Bloomington, February 25, 2011*
- (2) *New Academic Degree Program Proposal Summary – Ph.D. in Environmental Health, February 25, 2011*

## Abstract

Doctor of Philosophy in Environmental Health  
To Be Offered by  
Indiana University Bloomington at Bloomington

February 25, 2011

**Objectives:** To educate the next generation of environmental health professionals to understand the influences and effects of environmental factors on human health and disease with a focus on rural communities; to prepare health scientist to conduct and share through scholarly pursuits the results of original lab-based research; to emphasize the scientific, technological, policy, and management skills needed to address environmental, toxicological and occupation health concerns; and to advance the discipline of Environmental Health.

**Clientele to be Served:** The program is designed to attract graduates from accredited public health programs and related fields (health, applied health, and the sciences).

**Curriculum:** A total of 90 semester credit hours is required to complete the program, distributed as follows:

Major Coursework (39 credit hours)

- Environmental and Occupational Health (3)
- Principles of Toxicology (3)
- Environmental and Occupational Epidemiology (3)
- Introduction to Environmental Health Research (3)
- Risk Assessment, Policy and Toxic Regulations (3)
- Multivariate Statistical Analysis (3)
- Environmental Health Research Rotations (1.5 credits to be taken at least twice)
- Environmental Health Research (3 credits to be taken at least 3 times)
- Seminar in Environmental Health (1 credit to be taken at least 3 times)
- Current Topics in Environmental Health (3 credits to be taken at least twice)

Major Electives (12 credit hours)

Minor (9 to 12 credit hours per minor)

Dissertation (30 credit hours minimum)

**Employment Possibilities:** Professionals trained in Environmental Health, including those in Toxicology, Occupational Health and Risk Assessment, will see job opportunities grow over the next several decades due to an increase in retirements and challenges in the chemical, physical, built and social environments. While there is a significant demand for toxicologists and Environmental Health specialists, academic positions are in high demand, frequently with over a hundred qualified applicant per position.

**NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY**

February 25, 2011

**I. Prepared by Institution**

Institution/Location: Indiana University Bloomington to be offered at Bloomington

Program: Ph.D. in Environmental Health

	Year 1 FY2011	Year 2 FY2012	Year 3 FY2013	Year 4 FY2014	Year 5 FY2015
Enrollment Projections (Headcount)					
Full-Time	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>20</u>
Part-Time	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>20</u>
Enrollment Projections (FTE)					
Full-Time	<u>6</u>	<u>11</u>	<u>15</u>	<u>19</u>	<u>19</u>
Part-Time	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>6</u>	<u>11</u>	<u>15</u>	<u>19</u>	<u>19</u>
Degree Completions Projection	<u>0</u>	<u>0</u>	<u>0</u>	<u>5</u>	<u>5</u>
New State Funds Requested (Actual) *	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
New State Funds Requested (Increases) *	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>

**II. Prepared by CHE**

New State Funds To Be Considered For Recommendation (Actual) *	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
New State Funds To Be Considered For Recommendation (Increases) *	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>

CHE Code: 10-44

Campus Code: 1809

County: Monroe

Degree Level: 19

CIP Code: Federal – 512202; State – 512202

\* Excludes new state dollars that may be provided through enrollment change funding.