Section 1  TPG Summary & Relevance

NIOSH is tasked, under the OSH Act, with supporting professional level Occupational Safety & Health training to insure a steady stream of trained OSH professionals to serve the needs of the American workplace. For more than thirty years, University of Arizona’s Industrial Hygiene Program has, with or without NIOSH support, assisted NIOSH in meeting its goal of supplying qualified professional OSH personnel. This has been done by providing Master’s level graduate training in Industrial Hygiene, which is one of the four original core occupational safety and health training areas.

Industrial Hygiene Program Grant at the University of Arizona is a critical part of the Program’s ability to assist NIOSH in meeting its goal of providing professional level training. During its thirty year history, and into the current day, the University of Arizona’s Industrial Hygiene Program has been and continues to be an Industrial Hygiene leader in the American Southwest.

The Program’s key focuses are the MPH (ABET Accredited) and the MS in IH, but doctoral level IH study is also available (not NIOSH supported). In addition to the graduate program, undergraduate Public Health students in the EOH track are exposed to IH course material. The Industrial Hygiene Program is administratively housed in the Environmental and Occupational Health Section of the College of Public Health. The continuation of a high quality Industrial Hygiene program in the Southwest is important to meet the strong demand for well-trained occupational health professionals in a region of the United States that is experiencing high growth. This is the only such program in Arizona and there are no IH programs in the neighboring states of New Mexico and Nevada. Furthermore, the southwest is the home of the majority of the metal and non-metal mining in the USA which is an inherently dangerous industry, made more hazardous by the downturn in metallic mineral prices and the accompanying layoffs. The Arizona program also serves an important function as a focal point for the information, research, and professional development needs for the region’s practicing professionals. The purpose of the MPH/MS degrees is to prepare students for Industrial Hygiene careers involving professional IH practice. IH and EOH are fundamental parts of our national public health system.

Environmental & Occupational Health (EOH) is a core part of the field of Public Health, and Industrial Hygiene is a key part of EOH, so the program relevance is inherent in the program content.

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Section 2 - Summary of 2015-16 Progress Report – High Impact Story

There is one standout story for the 2015-16 training year. As a part of a one-time offering, in a course titled “Field Studies in Industrial Hygiene”, the students spent the semester conducting a comprehensive Industrial Hygiene evaluation of a small local foundry. The evaluation, which was done both as a field experience for the students and as a Public Service for the foundry and the community, began with a meeting with the foundry’s vice president, followed by a walkthrough to familiarize the students with the foundry and its operation. This was followed by a series of trips to the foundry during which anywhere from two to ten students conducted various forms of Industrial Hygiene measurements of foundry exposures. The measured exposures included:
- Noise (both noise mapping and dosimetry in a number of foundry work areas and on a number of classes of workers),
- Various size fractions of ambient airborne dust using both direct reading and twa sampling approaches (again in a variety of locations and jobs),
- Ambient and job task created metal fume exposures (lead, zinc and copper) on the pouring line,
- Ambient and job task created metal dust exposure from finishing operations (same metals),
- Silica exposure at a number of the molder workstations,
- Heat stress along the pouring line and at a number of other locations, and
- An ergonomic assessment of the molders job (including borrowing tamping (ramming) tools from a manufacturer back east to determine their effect on dust exposure during the ramming or tamping of the sand into the molds.

The students then put together a report for the foundry’s management. The report included both their samplings results, interpretation of the results and their implications for worker health effects, and preparing a set of recommendations for reducing/controlling exposures.

The student team finished up the semester by spending two hours presenting the findings and recommendations to the foundry’s management. It should also be noted that the student and faculty time for the project was uncompensated.

The Program has continued its OSH research work with both the local firefighting services and the southwestern US mining communities.