A. Program Educational Objectives:

The mission of the Industrial Hygiene Master's Program is to produce graduates who, within three years of graduation are able to:

a. Demonstrate a high level of technical and scientific competence in recognizing, evaluating and controlling occupational and environmental hazards.
b. Solve complex problems through a combination of observation, literature review, measurement and data analysis.
c. Communicate effectively both orally and in writing with a wide range of constituents.
d. Design and develop long-range goals and programs.
e. Act and behave responsibly and ethically according to the industrial hygiene professional code of ethics.
f. Understand the limits of their profession and seek on-going education and work experience for their professional advancement leading to professional certification.
g. Interact competently and professionally at all levels of an organization working as a fully-contributing member of a team and accepting independent work responsibilities with a high level of self-discipline.
h. Use skills to benefit the community in recognizing work and environmental hazards and educating those responsible for eliminating these hazards.

B. Student Outcomes

In the broadest sense, the University of Minnesota Industrial Hygiene Masters Program prepares students for professional practice as industrial hygienists who will work toward the solution of a broad range of problems in a variety of settings. More specifically, this program is designed to develop knowledge and skills in the six key areas of Recognition, Evaluation, Control, Communication, Behavior, and Management. For each of these key areas we expect students upon graduation to be able to:

<u>Recognition</u>

R1. Identify health hazards of workplace processes and operations
R2. Understand the relationship between exposures and health outcomes
R3. Understand, interpret and apply occupational and environmental regulations
R4. Identify and describe quantitative and qualitative aspects of hazards associated with specific sources and processes
R5. Describe physical and chemical aspects of the generation of hazards
R6. Recognize the influence of cultural and social factors in occupational health practices

<u>Evaluation</u>

E1. Design and initiate research
E2. Gather, manage, and analyze data
E3. Assess risks to population health
E4. Interpret and apply scientific findings
E5. Measure and evaluate health and safety programs
E6. Understand quantitative and qualitative aspects of exposure assessments, dose response, and risk characterization

E7. Calculate, interpret, and apply statistical and epidemiological data
E8. Design and implement an appropriate exposure assessment strategy
E9. Understand basic principles of air sampling and its use for evaluating exposures and controls
E10. Understand the interpretation and use of exposure guidelines
E11. Prioritize hazards and exposures and the actions necessary for eliminating or controlling them

Control

Con1. Design and implement work process interventions
Con2. Recommend, evaluate and implement appropriate engineering, administrative and personal protective controls
Con3. Select the most appropriate hazard control method(s) for a given situation
Con4. Validate the effectiveness of selected hazard control methods

Communication

Com1. Communicate effectively with variety of stakeholders (e.g. management, labor, etc..)
Com2. Produce effective written communication through scientific and technical summaries and reports
Com3. Interpret and disseminate policies
Com4. Design and deliver adult education programs
Com5. Communicate effectively with other safety and health professionals

Behavior

B1. Demonstrate awareness of diversity in social and cultural beliefs
B2. Demonstrate the importance of appropriate ethical performance and practice
B3. Demonstrate familiarity with and be able to use professional code of ethics
B4. Understand and apply laws and regulations
B5. Function effectively on an interdisciplinary team
B6. Value professional development

Management

M1. Work collaboratively in a team
M2. Formulate and implement guidelines and policies
M3. Manage resources effectively
M4. Develop and implement health and safety programs
M5. Display effective leadership