



**NATIONAL  
ENVIRONMENTAL HEALTH  
SCIENCE AND PROTECTION  
ACCREDITATION COUNCIL  
(EHAC)**

**Outcome Assessment Report 2010**

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**Background:**

According to the EHAC Undergraduate Guidelines section VI. Reporting Obligations of Accredited and Pre-accredited Programs part D. Program Outcomes Assessment Survey, it states that:

“At the time of re-accreditation, the institution shall survey program graduates and employers via the Council’s outcome assessment tool. All graduates since the last accreditation shall be in the pool of those to be surveyed. The completed tools shall be gathered by the institution and forwarded to the Executive Director of the Council six months prior to the annual meeting of the Council. The Council will supply a summary of the information gathered to all accredited programs on an annual basis.

The purpose of this survey is to determine the adequacy of the accreditation process to the needs of the professional practice of environmental health. The information gathered by an institution through the outcome assessment process will not be used as part of the self-study for re-accreditation purposes for a given institution. The Council will use the compiled information from all institutions undergoing re-accreditation to evaluate and modify the requirements of accreditation.”

The outcome assessment tool consists of two surveys conducted through surveymonkey.com, one for graduates and one for their supervisors. It is distributed to the re-accreditation candidate Program Directors where they send the links to their graduates. The graduates then submit the supervisor survey to their supervisors.

The following re-accreditation applicants responded to the outcome assessment survey:

**Table 1.**

<b>EHAC Re-Accreditation Applicants 2011</b>	<b>Program</b>	<b>Next Accreditation Review</b>	<b>Initial Accreditation</b>	<b>Graduating Classes reflected on OA</b>	<b># of Graduate Respondents</b>	<b># of Supervisor Respondents</b>
Boise State University	Undergraduate	2011	1982	2005-2010	15	8
Mississippi Valley State University	Graduate	2011	2005	2005-2010	2	0
University of Findlay	Graduate	2011	2005	2005-2010	32	13
University of Washington	Undergraduate	2011	1976	2005-2010	21	3
University of Wisconsin Eau Claire	Undergraduate	2011	1975	2005-2010	10	4
Western Carolina University	Undergraduate	2011	1984	2005-2010	20	6

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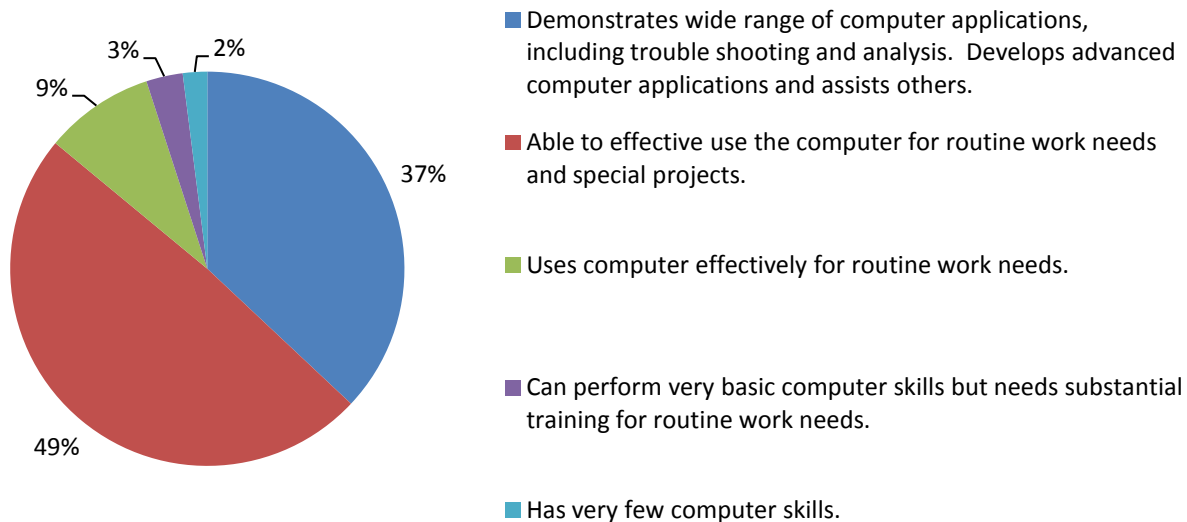
*Email: ehacinfo@aehap.org www.ehacoffice.org*

## Graduate Skills

Listed below are core competencies in environmental health programs. Graduate respondents were asked to choose the option that most closely described their skill level. The percentages reflect all 100 graduate survey respondents.

**Chart 1**

### Computer Skills



**Chart 2**

### Communication Skills (Oral)

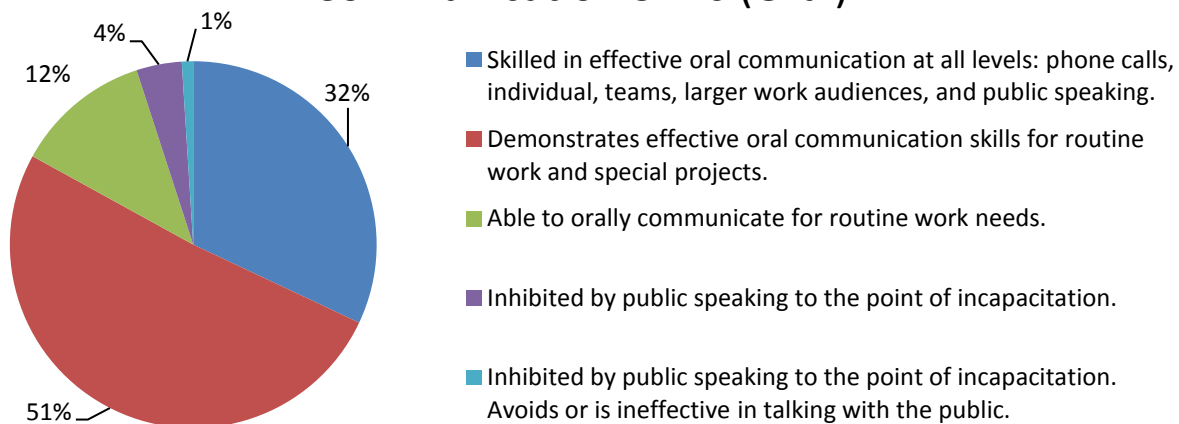


Chart 3

### Technical Skills

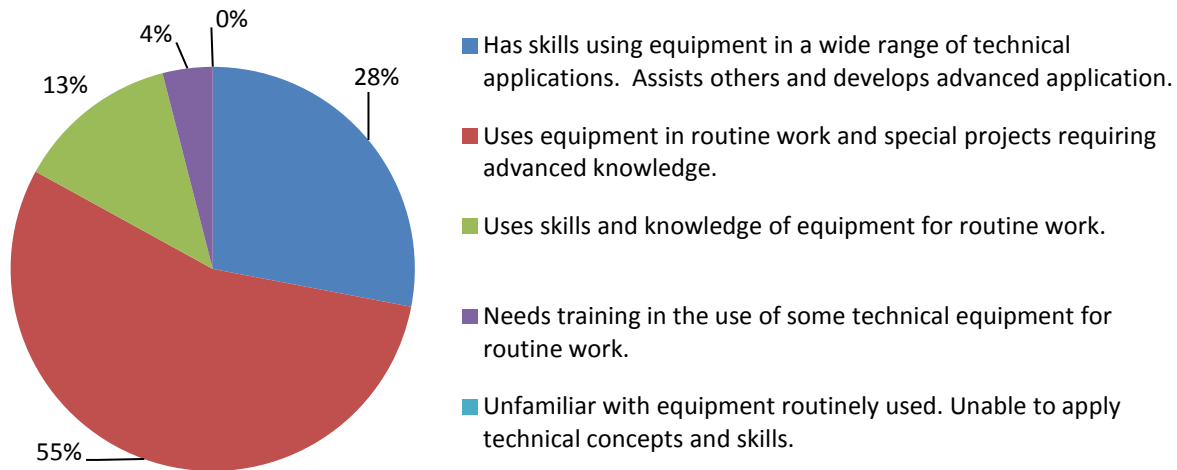
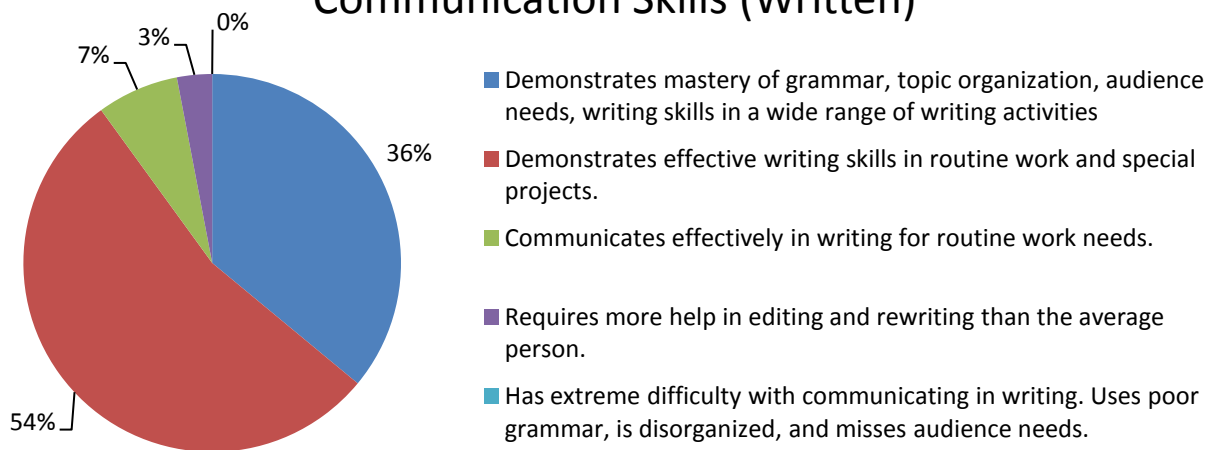


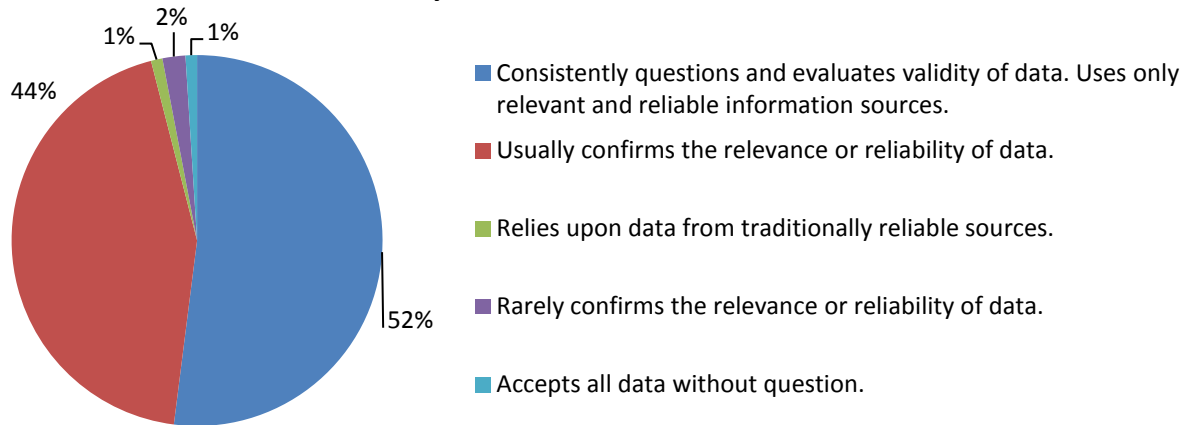
Chart 4

### Communication Skills (Written)



**Chart 5**

### Identify reliable and relevant information.



**Chart 6**

### Drawing Appropriate Conclusions

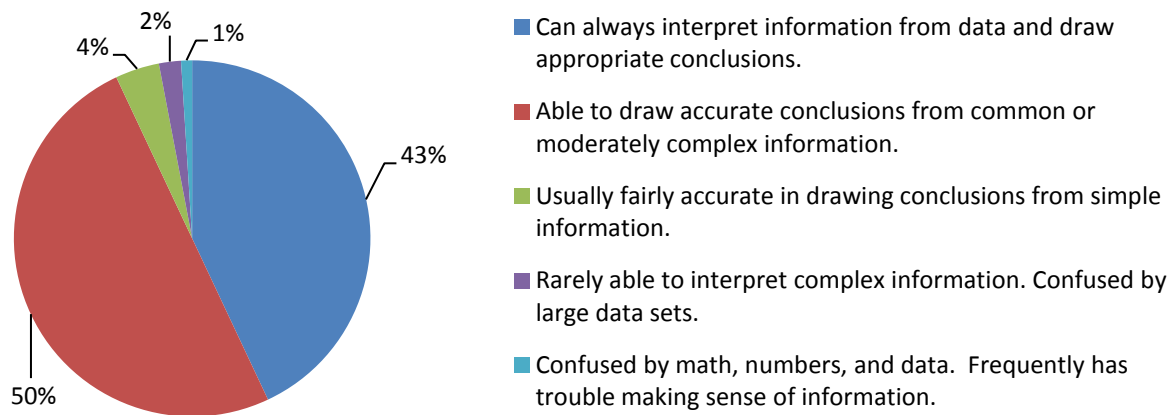


Chart 7

### Choosing and defending an appropriate course of action.

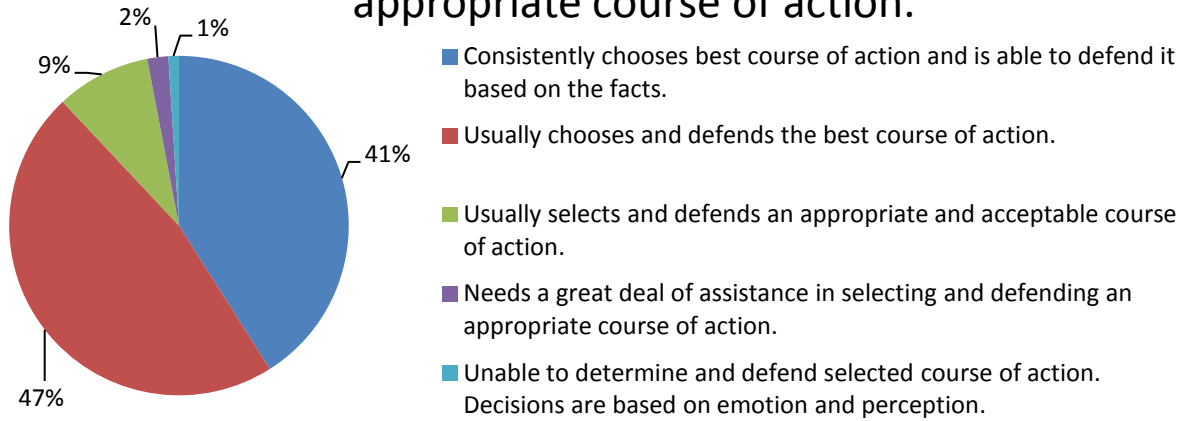
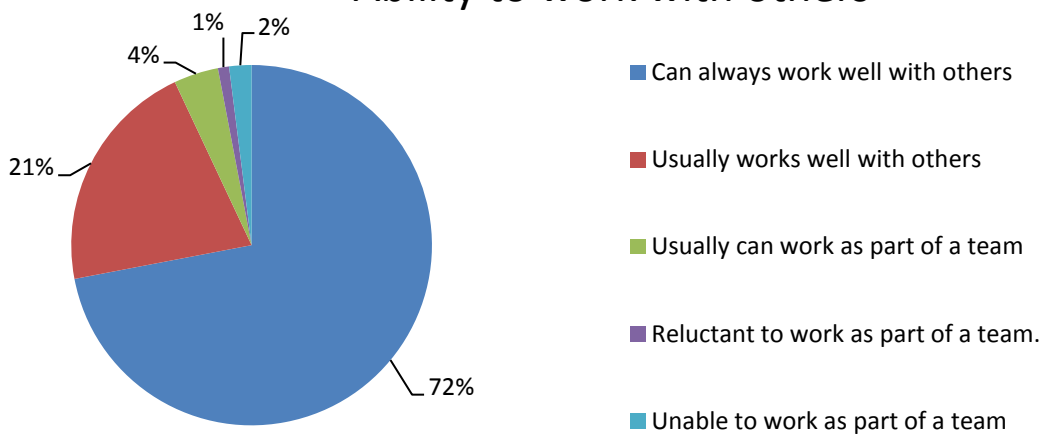


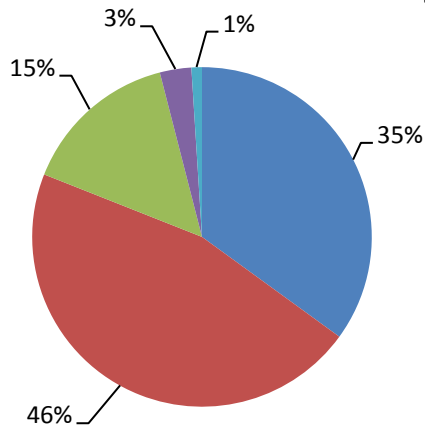
Chart 8

### Ability to work with others



**Chart 9**

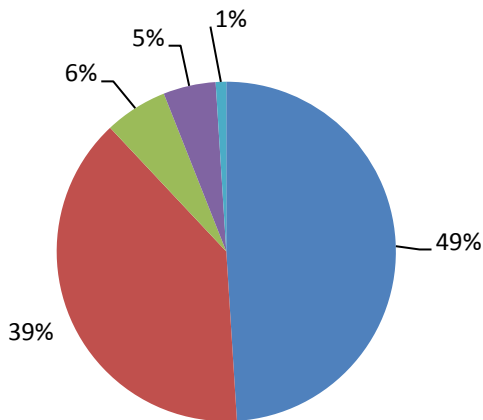
### Leadership Skills



- Always demonstrates initiative and creativity at work. Effectively leads a team when called upon
- Demonstrates leadership skills. Solidly contributes in the workplace as a team leader or member
- Able to be a leader or team member depending on the situation.
- Somewhat able to lead a team. Reluctant to accept leadership roles.
- Lacking initiative and unable to assume a leadership role

**Chart 10**

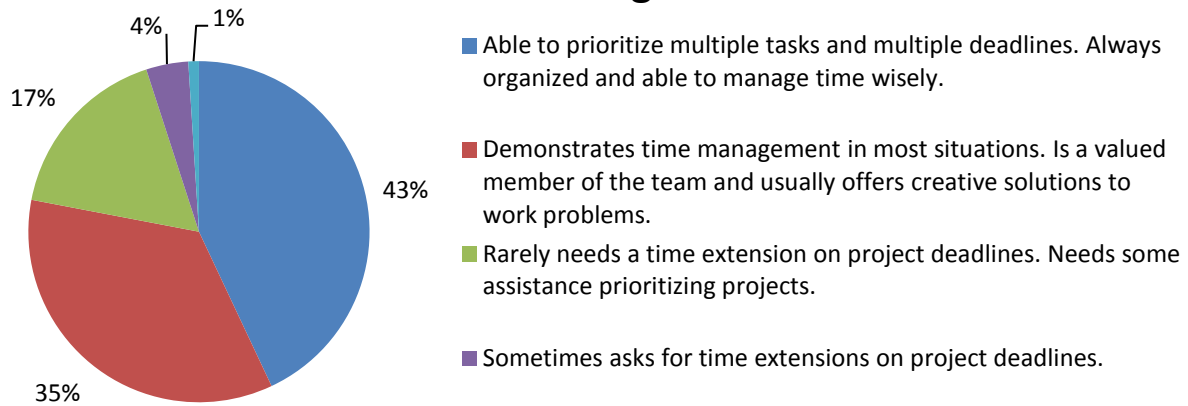
### Organization



- Always organized and able to manage multiple projects simultaneously
- Demonstrates organizational skills in most situations
- Usually organized.
- Somewhat disorganized.
- Lacking basic skills in organization.

**Chart 11**

### Time Management



Respondents were asked to rate their skill-level (5=Best, 1=Worst) in the following areas:

**Table 2.**  
**Graduate Skills-All Respondents (5=Best, 1=Worst)**

Skills	Number of Respondents	Average
Computer Skills	100	4.16
Communication Skills (Oral)	100	4.09
Technical Skills	100	4.07
Communication Skills (Written)	100	4.23
Identify reliable and relevant information.	100	4.44
Drawing Appropriate Conclusions	100	4.32
Choosing and defending an appropriate course of action.	100	4.25
Ability to work with others	100	4.60
Leadership Skills	100	4.11
Organization	100	4.30
Time Management	100	4.15

**Table 3.**  
**Graduate Skills- Boise State University (5=Best, 1=Worst)**

<b>Skills</b>	<b>Number of Respondents</b>	<b>Average</b>
Computer Skills	15	4.07
Communication Skills (Oral)	15	4.13
Technical Skills	15	3.93
Communication Skills (Written)	15	4.13
Identify reliable and relevant information.	15	4.53
Drawing Appropriate Conclusions	15	4.20
Choosing and defending an appropriate course of action.	15	4.07
Ability to work with others	15	4.73
Leadership Skills	15	4.00
Organization	15	4.27
Time Management	15	4.20

**Table 4.**  
**Graduate Skills- Mississippi Valley State University (5=Best, 1=Worst)**

<b>Skills</b>	<b>Number of Respondents</b>	<b>Average</b>
Computer Skills	2	4.50
Communication Skills (Oral)	2	4.50
Technical Skills	2	4.50
Communication Skills (Written)	2	4.50
Identify reliable and relevant information.	2	4.50
Drawing Appropriate Conclusions	2	4.50
Choosing and defending an appropriate course of action.	2	4.50
Ability to work with others	2	5.00
Leadership Skills	2	4.50
Organization	2	4.50
Time Management	2	4.50

**Table 5.**  
**Graduate Skills- University of Findlay (5=Best, 1=Worst)**

<b>Skills</b>	<b>Number of Respondents</b>	<b>Average</b>
Computer Skills	32	4.13
Communication Skills (Oral)	32	4.00
Technical Skills	32	4.06
Communication Skills (Written)	32	4.09
Identify reliable and relevant information.	32	4.22
Drawing Appropriate Conclusions	32	4.19
Choosing and defending an appropriate course of action.	32	4.03
Ability to work with others	32	4.38
Leadership Skills	32	4.06
Organization	32	4.16
Time Management	32	3.94



**Table 6.**  
**Graduate Skills- University of Washington (5=Best, 1=Worst)**

<b>Skills</b>	<b>Number of Respondents</b>	<b>Average</b>
Computer Skills	21	4.19
Communication Skills (Oral)	21	3.86
Technical Skills	21	3.86
Communication Skills (Written)	21	4.38
Identify reliable and relevant information.	21	4.48
Drawing Appropriate Conclusions	21	4.33
Choosing and defending an appropriate course of action.	21	4.33
Ability to work with others	21	4.62
Leadership Skills	21	3.95
Organization	21	4.48
Time Management	21	4.33

**Table 7.**  
**Graduate Skills- University of Wisconsin Eau Claire (5=Best, 1=Worst)**

<b>Skills</b>	<b>Number of Respondents</b>	<b>Average</b>
Computer Skills	10	4.10
Communication Skills (Oral)	10	4.30
Technical Skills	10	4.10
Communication Skills (Written)	10	4.00
Identify reliable and relevant information.	10	4.60
Drawing Appropriate Conclusions	10	4.20
Choosing and defending an appropriate course of action.	10	4.30
Ability to work with others	10	4.30
Leadership Skills	10	4.10
Organization	10	4.10
Time Management	10	4.10

**Table 8.**  
**Graduate Skills- Western Carolina University (5=Best, 1=Worst)**

<b>Skills</b>	<b>Number of Respondents</b>	<b>Average</b>
Computer Skills	20	4.25
Communication Skills (Oral)	20	4.30
Technical Skills	20	4.35
Communication Skills (Written)	20	4.45
Identify reliable and relevant information.	20	4.60
Drawing Appropriate Conclusions	20	4.65
Choosing and defending an appropriate course of action.	20	4.60
Ability to work with others	20	4.95
Leadership Skills	20	4.40
Organization	20	4.45
Time Management	20	4.25

## Course Relevance

Respondents were asked to answer yes or no if their job required knowledge in the following areas found in environmental health. The last two columns to the far right represent the respective percentages reflecting “knowledge required” and “knowledge not-required” in the jobs of all (100) survey respondents:

**Table 9.**

<b>Job requires knowledge of:</b>	<b>Individual Yes</b>	<b>Individual No</b>	<b>N/A</b>	<b>Percent Required</b>	<b>Percent Not Required</b>
Epidemiology	39	44	17	0.39	0.44
Statistical Methods	61	23	16	0.61	0.23
Toxicology	52	34	14	0.52	0.34
Environmental Economics	28	55	17	0.28	0.55
Environmental Health Management	51	34	15	0.51	0.34
Risk Assessment	73	16	11	0.73	0.16
Risk Communication	71	16	13	0.71	0.16
Air Quality Control (Indoor & Outdoor)	54	30	16	0.54	0.30
Environmental Chemistry	40	42	18	0.40	0.42
Environmental Law and Public Policy Development	61	26	13	0.61	0.26
Environmental Epidemiology	34	50	16	0.34	0.50
Environmental Microbiology	34	47	19	0.34	0.47
Food Protection	29	51	20	0.29	0.51
Global Environmental Health	26	54	20	0.26	0.54
Environmental Health Planning (Land Use, Transportation, Energy, Urban Development, Resource Conservation)	37	45	18	0.37	0.45
Hazardous Materials	66	22	12	0.66	0.22
Hydrogeology	24	56	20	0.24	0.56
Industrial Hygiene	50	35	15	0.50	0.35
Injury Prevention	49	34	17	0.49	0.34
Noise Control	37	44	19	0.37	0.44
Occupational Health and Safety	57	28	15	0.57	0.28
Radiation Health (Ionizing and Non-Ionizing)	32	49	19	0.32	0.49
Recreational Environmental Health	25	54	21	0.25	0.54
Institutional Health (Including infection control and infectious waste)	30	50	20	0.30	0.50
Soils	29	51	20	0.29	0.51
Solid Waste Management	43	40	17	0.43	0.40
Vector Control	29	50	21	0.29	0.50
Waste Water	46	37	17	0.46	0.37
Water Quality	51	32	17	0.51	0.32
Water Supply	38	42	20	0.38	0.42

**Specialty Area Knowledge & Program Preparation-All Respondents**

Respondents were asked to answer yes or no if they were well-prepared in the following specialty areas in their undergraduate or graduate program. The last two columns to the far right represent the percentages of all (100) graduates who were well-prepared and under-prepared by their program:

**Table 10.**

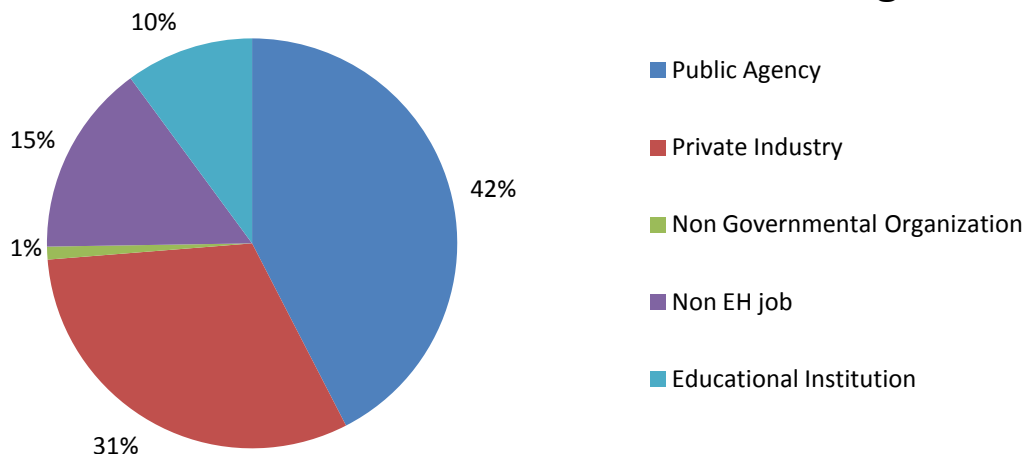
<b>EH Program prepared me in:</b>	<b>Individual Yes</b>	<b>Individual No</b>	<b>N/A</b>	<b>Percent Well-Prepared</b>	<b>Percent Under-Prepared</b>
Epidemiology	70	4	26	0.70	0.04
Statistical Methods	67	11	22	0.67	0.11
Toxicology	69	9	22	0.69	0.09
Environmental Economics	35	38	27	0.35	0.38
Environmental Health Management	59	17	24	0.59	0.17
Risk Assessment	75	12	13	0.75	0.12
Risk Communication	70	15	15	0.70	0.15
Air Quality Control (Indoor & Outdoor)	68	12	20	0.68	0.12
Environmental Chemistry	56	19	25	0.56	0.19
Environmental Law and Public Policy Development	73	9	18	0.73	0.09
Environmental Epidemiology	55	17	28	0.55	0.17
Environmental Microbiology	55	15	30	0.55	0.15
Food Protection	52	19	29	0.52	0.19
Global Environmental Health	52	18	30	0.52	0.18
Environmental Health Planning (Land Use, Transportation, Energy, Urban Development, Resource Conservation)	53	20	27	0.53	0.20
Hazardous Materials	74	8	18	0.74	0.08
Hydrogeology	31	39	30	0.31	0.39
Industrial Hygiene	68	11	21	0.68	0.11
Injury Prevention	57	22	21	0.57	0.22
Noise Control	56	19	25	0.56	0.19
Occupational Health and Safety	74	7	19	0.74	0.07
Radiation Health (Ionizing and Non-Ionizing)	40	32	28	0.40	0.32
Recreational Environmental Health	36	32	32	0.36	0.32
Institutional Health (Including infection control and infectious waste)	41	27	32	0.41	0.27
Soils	40	33	27	0.40	0.33
Solid Waste Management	59	16	25	0.59	0.16
Vector Control	47	22	31	0.47	0.22
Waste Water	65	11	24	0.65	0.11
Water Quality	69	9	22	0.69	0.09
Water Supply	56	17	27	0.56	0.17

**Graduate Work Place Data:**

The pie chart below represents job sectors for graduates of the six schools surveyed. Of the respondents, 78 are currently working, 14 were not working, and 8 did not respond to this item.

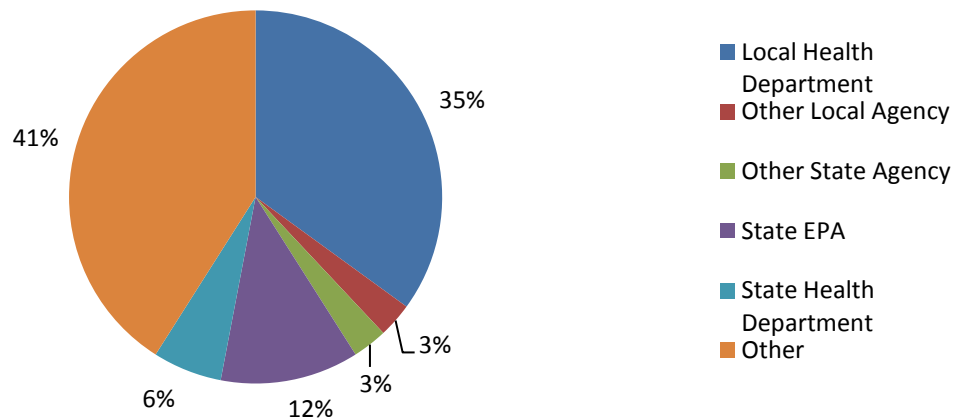
**Chart 12**

**Job Sector Distribution of Working Graduates**



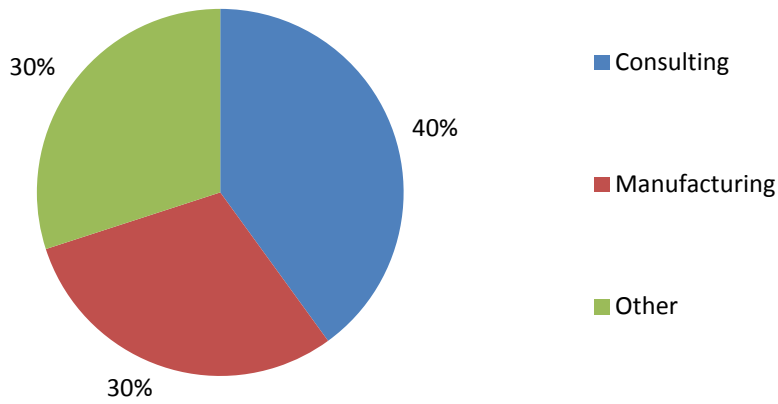
**Chart 13**

**Graduates Working within the Public Sector**



**Chart 14**

### Graduates Working in the Private Sector

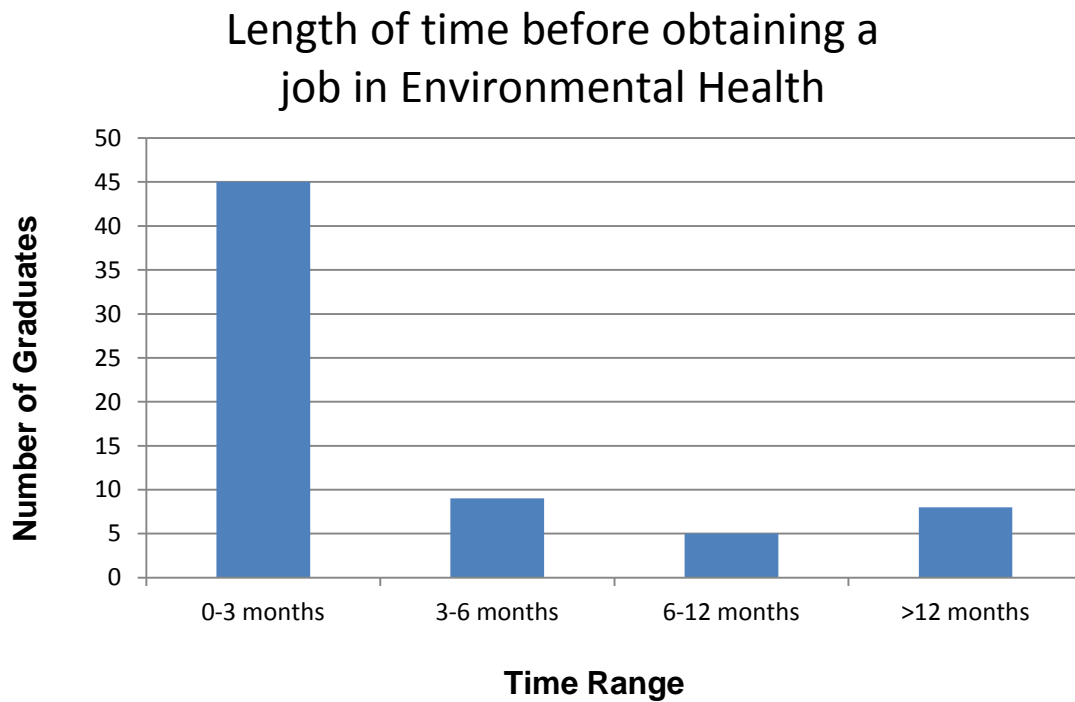


**Chart 15**

### Current Salary of Graduate Respondents



**Chart 16**



The following were listed as specific places of employment for 35 respondents:

**Table 11.**

USDA-NRCS	Fluor Corporation
State Department of Transportation	Doctor assistant
US Army Corps of Engineers	National Institutes of Health
Transportation	Graduate Student
Subcontractor to Dept. of Energy	Graduate Student
Subcontractor to the Government	Government Agency
Stay at home mom	general contractor
Local Water & Wastewater District	Hospital-related job
State department	Environmental Services/consulting
Science Teacher	DOE Contractor
Residential Counselor	DoD- Air Force
Research and Development	US HIS
Quality Management - Major Food Company	County Government
Public School District	Corporate Office- Manufacturing
Public Health Regional Surveillance Team	Construction
Physician	Clinic
Orthopedist private practice	City Health Agency
Nursing Education	

## **Graduate Data on Continuing Education and Professional Development**

The table below details the degrees completed by graduates after earning a degree in Environmental Health.

**Table 12.**

<b>Degree</b>	<b>Number of Graduates</b>
Completed a Bachelor's Degree	3
Completed a Master's Degree	19
Completed a Doctorate Degree	2

The following were listed as specific completed degrees for 11 respondents:

**Table 13.**

Biology with Life Sciences emphasis, Pre-Veterinary Medicine and Chemistry
Masters Environmental Safety & Occupational Health management
Environmental Health and Safety
Environmental Public Administration
Environmental Safety and Health Management
Industrial Hygiene and Hazardous Substances
Masters in Safety Management
MS in ES&H Mgmt.
Public Health
Manufacturing and Technology Management
Medicine

The 100 graduate respondents indicated if they had participated in the activities listed below to further their professional careers:

**Table 14.**

<b>Activity</b>	<b>Number of Participating Graduates</b>
Seminars	54
Teaching/Presentations	39
Professional Organizations	47
Publishing	7

The following were listed as specific professional awards received by 11 respondents:

**Table 15.**

2000 George B Garrett Professionalism Award (Ohio EPA) 2003 Bob McEwens Gold Star Award (Central District Office, Ohio EPA) 2006 Air Pollution Control Four-Diamond Employee Recognition (Ohio EPA)
2010 CREO Tropical Disease Drug Discovery program in Panama
Certified Safety Professional Certified Hazardous Materials Manager MBA
Graduate of the US Army Career Program 12, Safety and Occupational Health Program. Recognition from the Lieutenant Colonel and the Major for my efforts in graduating top of the class in the CP-12 program.
Ohio EPA's DEAL (Developing Excellent Agency Leaders) Program.
OSHA 10 Certification; OSHA 3110: Fall Arrest System training completion
REHS in North Carolina OSWW authorization PDWW authorization
southwest idaho laboratory operator of the year (2010)
State Waste Water Operators License
The National Safety Council awarded the 2009 President's Award to UPS for RoadCode safe driving program for teens, and the 2009 Corporate Citizenship Award which is an honor presented by the Business Civic Leadership Center of the US Chamber of Commerce. • Executive member of the UPS Integrad Training Center design committee. The innovative UPS Integrad training center was featured for progressive and original training developments on Good Morning America, Fortune Magazine, and T & D (Training and Development) Magazine. Integrad has been awarded the Alexander C. Williams, Jr. Design Award by the Human Factors and Ergonomics Society.
Two Citation Awards for performing duties above and beyond regular duties.

The 100 graduate respondents indicated the following certificate or credentialing exams they have passed:

**Table 16.**

<b>Exam</b>	<b>Number of Graduates</b>
REHS/RS (NEHA)	11
REHS/RS (PES)	1
REHS (state level)	10
ASP/CSP	5
IHIT/CIH	0
Hazardous Material	7
Water/Wastewater	6



The following were listed as specific certificate or credentialing exams passed by 13 respondents:

**Table 17.**

ASBESTOS SUPERVISOR
Certified Pool Operator
Certified Professional Environmental Auditor; Registered Environmental Manager
Certified Professional in Food Safety through NEHA
CIT completion
Computer Training
CPESC
fundamentals of engineering exam Ohio
Green House Gas Accreditation
Occupational Health and Safety Technologist (OSHT) issued by the Council on Certification of Health, Environmental and Safety Technologists (CCHST)
OSHA 40 HR HAZARDOUS MATERIAL
OSHA, RCRA
Pesticide Class B Public Applicator

The 100 graduate respondents indicated involvement in the professional organizations listed below:

**Table 18.**

<b>Professional Organization</b>	<b>Number of Graduates</b>
ACGIH - Current Member	1
AIHA - Current Member	7
NEHA - Current Member	17
APHA - Current Member	1
AWMA - Current Member	0
AWWA - Current Member	3
WEF - Current Member	3
ASSE* - Current Member	12
SOT - Current Member	1

**\*Note:** Two respondents indicated they held a Leadership Role with ASSE.

## Supervisor Survey Results

### Background:

Thirty-four supervisors were surveyed on the skill levels of graduates.

**Table 19.**  
**Supervisor Rating of Graduate Skills-All Respondents (5=Best, 1=Worst)**

Skills	Number of Respondents	Average
Computer Skills	34	4.56
Communication Skills (Oral)	34	4.18
Technical Skills	34	4.21
Communication Skills (Written)	34	4.24
Identify reliable and relevant information.	34	4.38
Drawing Appropriate Conclusions	34	4.41
Choosing and defending an appropriate course of action.	34	4.32
Ability to work with others	34	4.50
Leadership Skills	34	4.03
Organization	34	4.35
Time Management	34	4.12

### Specialty Area Requirements of Jobs-All Respondents

Supervisors of graduates were asked to answer yes or no if the job required the following core competencies. The table below represents the responses of 34 supervisors:

**Table 20.**

Job Requirement	Individual Yes	Individual No	N/A	Percent Required	Percent Not Required
Epidemiology	10	17	7	0.29	0.50
Statistical Methods	14	14	6	0.41	0.41
Toxicology	13	14	7	0.38	0.41
Environmental Economics	13	15	6	0.38	0.44
Environmental Health Management	16	12	6	0.47	0.35
Risk Assessment	24	6	4	0.71	0.18
Risk Communication	23	5	6	0.68	0.15
Air Quality Control (indoor/outdoor)	18	12	4	0.53	0.35
Environmental Chemistry	14	14	6	0.41	0.41
Environmental Law & Public Policy	22	7	5	0.65	0.21
Environmental Epidemiology	10	17	7	0.29	0.50
Environmental Microbiology	13	14	7	0.38	0.41
Food Protection	10	18	6	0.29	0.53
Global Environmental Health	10	18	6	0.29	0.53
Environmental Health Planning	6	21	7	0.18	0.62
Hazardous Material	22	8	4	0.65	0.24
Hydrogeology	8	8	18	0.24	0.24

Industrial Hygiene	14	15	5	0.41	0.44
Injury Prevention	21	8	5	0.62	0.24
Noise Control	11	17	6	0.32	0.50
Occupational Health & Safety	20	10	4	0.59	0.29
Radiation Health	7	20	7	0.21	0.59
Recreational Environmental Health	10	17	7	0.29	0.50
Institutional Health (Including infectious control & infectious waste)	9	18	7	0.26	0.53
Soils	10	19	5	0.29	0.56
Solid Waste Management	16	12	6	0.47	0.35
Vector Control	12	15	7	0.35	0.44
Wastewater	17	11	6	0.50	0.32
Water Quality	20	10	4	0.59	0.29
Water Supply	14	14	6	0.41	0.41
Professional Ethics	31	0	3	0.91	0

### Specialty Area Knowledge & Program Preparation-All Respondents

Supervisors of graduates were asked to answer yes or no if graduates were well-prepared in the following specialty areas. The table below represents the responses of 34 supervisors:

**Table 21.**

Graduate Preparedness	Individual Yes	Individual No	N/A	Percent Well-Prepared	Percent Under-Prepared
Epidemiology	8	3	23	0.24	0.09
Statistical Methods	14	1	19	0.41	0.03
Toxicology	14	1	19	0.41	0.03
Environmental Economics	12	3	19	0.35	0.09
Environmental Health Management	16	2	16	0.47	0.06
Risk Assessment	21	2	11	0.62	0.06
Risk Communication	21	1	12	0.62	0.03
Air Quality Control (indoor/outdoor)	17	4	13	0.50	0.12
Environmental Chemistry	15	2	17	0.44	0.06
Environmental Law & Public Policy	19	1	14	0.56	0.03
Environmental Epidemiology	9	1	24	0.26	0.03
Environmental Microbiology	12	1	21	0.35	0.03
Food Protection	8	3	23	0.24	0.09
Global Environmental Health	9	4	21	0.26	0.12
Environmental Health Planning	6	3	25	0.18	0.09
Hazardous Material	21	2	11	0.62	0.06
Hydrogeology	8	5	21	0.24	0.15
Industrial Hygiene	13	3	18	0.38	0.09
Injury Prevention	18	3	13	0.53	0.09
Noise Control	10	3	21	0.29	0.09
Occupational Health & Safety	19	3	12	0.56	0.09

Radiation Health	5	4	25	0.15	0.12
Recreational Environmental Health	9	2	23	0.26	0.06
Institutional Health (Including infectious control & infectious waste)	9	2	23	0.26	0.06
Soils	9	3	22	0.26	0.09
Solid Waste Management	16	0	18	0.47	0
Vector Control	9	0	25	0.26	0
Wastewater	16	1	17	0.47	0.03
Water Quality	20	2	12	0.59	0.06
Water Supply	14	0	20	0.41	0
Professional Ethics	30	0	4	0.88	0

Of the 34 surveyed supervisors, 12 indicated the following specific “other” specialty areas needed for the job:

**Table 22.**

Health education, community assessment, health education program coordination
bed bug investigation training
A love of professional sports.
Industrial Hygiene
Strong chemical background
plan review skills
ENVIRONMENTAL REPORTS TO THE STATE
Public interaction, report writing and client communication
Environmental Management Systems
Public Training
In general, understanding of public health assurance.
Hazardous and Mixed Waste Management