Industrial and Environmental Health Management

Progress Report

prepared for the

Academic Program Review Council

March 4, 1999

Submitted by:
Kevin Besey
Michael Ells
Brad McCormick
Gary Rodabaugh
Lori Seiler
Janice Webster

TABLE OF CONTENTS

INTRODUCTION

The following progress report for the Industrial and Environmental Health Management (IEHM) Program is submitted to fulfill the request by the Academic Program Review Council (APRC). As requested, this report covers the progress made in the six areas of opportunity highlighted by the APRC in November 1997. These areas include:

- Decline in enrollment and the need for a formalized marketing and recruiting plan
- Faculty consulting activities
- Impact of the UAW-DaimlerChrysler project on the IEHM Program
- System for tracking retention and attrition
- Perceived problems with pre-professional and general education courses
- Equipment acquisition and replacement

DECLINE IN ENROLLMENT AND THE NEED FOR A FORMALIZED MARKETING AND RECRUITING PLAN

The IEHM program has experienced a decline in enrollment. The faculty believes this decline is due to several factors. Factors include:

- The lack of sustained recruiting efforts.
- Enrollment is down nationwide in environmental health-related curricula (since 1994).
- IEHM-related professions are hidden opportunities. The careers are not well recognized by prospective students or high school science teachers.

From 1982 to 1990, the program faculty and the College of Allied Health Sciences were actively involved in recruiting efforts. Because of the success of these activities, program faculty members were no longer available for recruiting off-campus because they were needed back in the classroom to work with students. In addition, in the early 1990s, there was a person in the CAHS assigned to recruiting activities for the college. This effort was eliminated when the person retired from the University.

According to data supplied by our accreditation council, since 1994 there has been an overall decline in the number of students enrolled in accredited environmental health curricula. The decline of the IEHM program reflects this nationwide trend.

IEHM-related careers are not well recognized by prospective students. In general, people tend to take the following things for granted

- Water and food supplies will be of high quality
- Air, water, and soil will be free from contamination
- Injuries and illnesses will not occur as a result of their the job

IEHM graduates work in all of these areas to protect human health and the environment. The program faculty has learned that prospective students need to be made aware of the many career opportunities within IEHM.

The program faculty recognized the decline in enrollment and participated in recruiting activities, such as campus tours, Autumn Adventure, Career Focus, the annual Technical Conference (cosponsored by the CAHS and College of Technology) as these were scheduled. Program faculty also attended professional meetings, such as the Michigan Environmental Health Association Annual Conference and the annual Michigan Safety Conference. The IEHM display board was on exhibit at these meetings and faculty members were available to discuss the program with interested parties. The program faculty also contacted students in pre-professional programs and informed them about IEHM. All of these activities were done on a regular basis, in addition to the faculty's other job-related responsibilities. The faculty maintained a list of the recruiting activities that were conducted.

In light of the Academic Program Review process, the program faculty recognized the need to develop a more formalized recruiting plan and implement it. A copy of the IEHM recruitment plan is attached for your review.

Many of the items in the overall plan have been implemented and require on-going effort. Much progress has been made because two faculty members have been given release time for recruitment activities. All program faculty members participated in recruitment efforts, in addition to their normal job activities.

The IEHM program faculty plans to assess the success of the recruiting activities. Currently, new students in the program are surveyed to determine how they found out about the program and where they came from (i. e. transfer student, county, high school, etc.). The survey is administered, each fall and winter, in the IEHM 101 Introduction to Industrial and Environmental Health Management course. On an annual basis, the faculty will evaluate the success of the various recruiting activities by determining which activities resulted in students entering the program. Results from the various assessment tools identified will provide direction on future recruiting activities. The program faculty believes it is important to identify the activities that prove successful in recruiting students and focus on those areas.

In order to ensure the future success of the IEHM program, the faculty needs support in the form of people, time, and money for recruitment. The faculty recommends having a half-time program coordinator who will lead the efforts for recruitment. Currently the coordinator position is one-quarter release time. With additional release time, the coordinator will direct recruiting effort off-campus (site visits, articulation agreements etc.) and will work with program faculty to continue marketing the program on campus. On campus, recruiting efforts could include such activities as presentations in science and career exploration classes and contacting students in pre-professional programs. The model of a half-time coordinator leading the effort for recruitment exists in other

colleges on campus (i.e. the College of Technology). This arrangement has proven successful in other areas on campus.

In addition, the IEHM program has already been working with the Programmatic Marketing Committee to request money for recruitment materials. The expected outcome of IEHM working with the marketing committee is that funds will be made available to develop and distribute recruiting materials as part of the overall recruitment strategy. The IEHM faculty will evaluate annually the success of the recruiting activities. The program intends to use this information to focus recruiting efforts on the most successful activities and to request additional resources as needed via the departmental unit action plan.

Increasing enrollment is a very long process. There are no quick fixes to produce immediate effects. Improving enrollment requires dedicated and continuous efforts. The faculty wants to eliminate the current situation where recruiting efforts only occur because of an enrollment problem. The faculty believes that with sustained efforts and resources, enrollment problems can be eliminated. Since actively recruiting in Fall 1998, there has been a 3-fold increase in the number of students changing into the curriculum. The IEHM program has excellent potential for future growth, if given the appropriate support.

ACCOUNTING OF FACULTY CONSULTING ACTIVITIES

The IEHM program faculty uses the following procedure when requesting consulting leave that affects classroom or programmatic responsibilities:

1. Before the consulting activity, the faculty member submits a consulting leave application to the Department Head for approval. Information requested on the form includes:

    a) Date of consulting leave and the number of normal duty hours the applicant will be absent.
    b) Description of the consulting assignment
    c) Explanation of how the activity will benefit the College of Allied Health Sciences and/or contribute to the public welfare
    d) Explanation of how assigned college responsibilities will be performed while on consulting leave.

2. If approved by the Department Head, the consulting leave application continues through the approval process to the Dean, Vice President for Academic Affairs, and the ultimately the President.

All requests are reviewed at the department and college levels before being approved. All program faculty members follow the system described above.

IMPACT OF THE UAW-DAIMLERCHRYSLER PROJECT ON THE IEHM PROGRAM

In 1995, the IEHM program began a relationship with UAW-DaimlerChrysler. The initial project involved the development of materials for a 40-hour basic health and safety orientation for skilled trade apprentices. After completion of the initial project, the IEHM program was asked, by UAW-DaimlerChrysler, to develop a certificate program for UAW-DaimlerChrysler Health and Safety Representatives. This second project involved training material development and teaching by Ferris faculty up to three times per year (Fall, Winter, Summer). The certificate program was very successful and UAW-DaimlerChrysler asked the IEHM program to develop a system for maintaining a certificate once achieved. The certificate maintenance program involved the development of more advanced health and safety training topics. The advanced topics are offered at the same time as the initial certificate topics. The IEHM program is now in the process of developing several new courses for UAW-DaimlerChrysler. New topics include:

- A 10-hour OSHA certificate program (certificate issued by the Occupational Safety and Health Administration)
- An examination preparation course for UAW-DaimlerChrysler members interested in pursuing the Occupational Safety and Health Technologist Certification (issued jointly by the American Board of Industrial Hygiene and the Board of Certified Safety Professionals).

The growth of the IEHM program's relationship with UAW-DaimlerChrysler has occurred with the support of the Department Head and the Dean of the College of Allied Health Sciences. All new projects are approved within the College of Allied Health Sciences before any work begins.

The UAW-DaimlerChrysler projects have been beneficial for the students, the IEHM program, the college, and for Ferris. Interaction with representatives from the automotive industry, representing many types of facilities, has provided the following:

- First hand-information about health and safety issues in the automotive industry that has been used in classroom back at Ferris as the basis for case studies and other classroom exercises
- Future development of internship sites at Chrysler facilities
- Advertising on a national level with UAW-DaimlerChrysler members that Ferris is an authority in health and safety
- Revenue for the IEHM program
- Recruiting opportunity on a nationwide basis

Every attempt is made to schedule the training sessions at a time when they will not affect the Ferris teaching schedule such as during spring break and summer. However, this is not always possible because of the scheduling constraints at the UAW-DaimlerChrysler National Training Center. If a time conflict does occur, the program

faculty involved in the training sessions know this information in advance and structure classroom activities accordingly so there is essentially no impact on the student. Example include having classes work on out-of-class research assignments while providing contact information for students to work with faculty while they are out of the office. The UAW-DaimlerChrysler projects have provided many benefits to Ferris. The projects are an excellent example of an innovative relationship between business and higher education.

SYSTEM FOR TRACKING RETENTION AND ATTRITION

With the help of the Student Academic Affairs office within the CAHS, the IEHM program will annually review program data for the following areas:

- Enrollment
- Graduates
- Withdrawal from Ferris
- Curriculum changes in and out of the program
- Denials and readmits

Below is a summary of the data collected since the program underwent the Academic Program Review.

IEHM Program	Winter 1998	Summer 1998	Fall 1998	Winter 1999
Enrollment	51	33	40	51
Graduates	10	11	2	Not applicable
Withdrawal from FSU	1	0	2*	0
Curriculum changes in	3	2	3	9
Curriculum changes out	0	0	0	2
Denials	1	0	7	0
Readmits	0	0	2	0

*One student never attended classes at Ferris.

The number of students enrolled has stabilized. The data show that enrollment is still low, but the majority of students remain in the program and graduate. The faculty feels that the most important interpretation of the data shown is that support is needed for recruitment. There has been a 3-fold increase in curriculum changes into the program since active recruiting began in Fall 1998. Based on the data above, retention and attrition do not appear to be issues. However, the faculty will continue to monitor this information.

PERCEIVED PROBLEMS WITH PRE-PROFESSIONAL AND GENERAL EDUCATION COURSES

Through informal discussions with students, the program faculty became concerned about what the IEHM students were learning in their English courses. Strong writing skills are an essential part of the IEHM field. In order to address this concern, the IEHM faculty are working with the Languages and Literature Department to review course

syllabi for ENGL 311 Advanced Technical Writing, a required course in the IEHM curriculum. Based on a review of this information, the IEHM program has provided comments to the Languages and Literature Department. The IEHM faculty plan to work with the Languages and Literature Department to ensure that our students acquire the technical writing skills needed for success in their field.

EQUIPMENT ACQUISITION AND REPLACEMENT

IEHM is an equipment-intensive program. Because IEHM is a bachelor's degree program, it is not eligible for Perkins funds (Voc. Ed.) According to the data included in the Administrative Program Review report submitted by the Dean in January 1999, the IEHM program has not had money included in the budget for equipment since fiscal year 1994. The program received a special allocation of $15,000 in 1995-96. The only equipment purchases since that time is the result of revenue generated from the UAW-DaimlerChrysler projects. At the Unit Action Plan Presentation to the President, held in February 1999 at the CAHS, the Dean indicated that $70,000 was available for equipment and that IEHM would receive a portion of that money. To date no equipment purchases have been made.

The current equipment level is barely adequate to meet the entry-level job requirements. Each year the program faculty develops an equipment list to be ready in case any money is made available. The faculty is concerned that the University has not committed to consistently providing the funding necessary to adequately supply, repair, maintain, and replace essential equipment IEHM students need.

Attached is a copy of the prioritized equipment list for the IEHM program. The items listed are necessary for the program to continue to provide the high quality of preparation our students need for entry into the environmental health and safety profession.

SUMMARY

The faculty believes the IEHM program is a valuable asset to THE CAHS and Ferris State University. The faculty is committed to enhancing the IEHM program. In order to accomplish this goal, the faculty needs support from the University. The IEHM program needs support in two main areas in order to enhance the program:

- Dedicated recruiting resources (release time, money, personnel) at the program level. This will allow the faculty to continue recruiting efforts started in Fall 1998. Sustained recruiting efforts are necessary to eliminate enrollment decline and to provide the needed support for the program.
- Sustained budgetary resources for the regular acquisition, repair, maintenance, and replacement of essential equipment. The past practice of getting equipment money through primarily special allocations makes it difficult to prepare students for meeting entry-level job requirements.

It is the faculty's hope that through the Academic Program Review Process, the IEHM program will receive the resources needed in the form of personnel, time, and money to increase enrollment and enhance the program.

APPENDIX A – IEHM RECRUITING PLAN

IEHM RECRUITMENT PLAN

The IEHM program faculty recognizes that sustained recruiting efforts are needed to make prospective students aware of the environmental health and safety career fields. The following recruitment plan identifies five essential areas where the program faculty will concentrate recruiting efforts:

- Admitted and prospective students
- On-campus activities
- Off-campus activities
- Alumni-related activities
- Hand-out materials and Incentives

Emphasis Area 1 — Admitted and Prospective Students

The IEHM program faculty will work with Assessment Services to contact students who have indicated an interest in the program or have indicated an interest in an area related to the environmental health and safety field. Example activities in this emphasis area may include:

- Send letters from the IEHM program sent to students who have inquired about the program
- Send letters from the IEHM program sent to students who have indicated an interest in an area related to the environmental health and safety field (such as biology and chemistry)
- Send welcome letters sent from the IEHM program to all admitted students
- Make follow-up telephone calls to prospective students from Faculty
- Make follow-up telephone calls to prospective students from Students
- Send follow-up letters sent to prospective students contacted by telephone
- Maintain a database of contact information

Emphasis Area 2 — On-Campus Activities

The IEHM program faculty will increase awareness on-campus about the program. Example activities in this emphasis area may include:

- Develop and maintain an IEHM webpage
- Advertise the program on the campus cable channel
- Produce and distribute program posters campus-wide
- Participate in activities such as Autumn Adventure, Technical Conference, and other campus-sponsored activities
- Make presentations in science classes about the IEHM program
- Make presentations in career exploration classes about the IEHM program
- Contact students in pre-professional programs about the program

- Market service courses to other programs on campus (such as OSHA Law, Institutional Health and Safety)
- Update the Admissions counselors about the IEHM program

Emphasis Area 3 — Off-Campus Activities

The IEHM program faculty will increase awareness off-campus about the program. Example activities in this emphasis area may include:

- Contact all high schools in Michigan and introduce the IEHM program
- Visit local high schools and make presentations about the IEHM program
- Attend high school career fairs and college night activities
- Contact career centers and introduce the IEHM program
- Contact all the community colleges in Michigan and introduce the IEHM program
- Develop articulation agreements with the community colleges, which have programs that compliment the IEHM program
- Visit the community colleges and make presentations about the IEHM program
- Participate in IEHM-related professional meetings and inform the groups about the IEHM program (i.e. display booth at meeting, presentations, etc.)
- Conduct needs assessments to investigate bringing the IEHM program to other parts of Michigan (primarily southeastern and southwestern regions).
- Exhibit the IEHM program at professional meetings, such as the annual conferences with the Michigan Environmental Health Association and the Michigan Safety Conference.

Emphasis Area 4 — Alumni Activities

The IEHM program faculty will increase contact with program alumni and seek their assistance with recruiting efforts. Example activities in this emphasis area may include:

- Identify program alumni and update the contact information
- Develop a newsletter to keep graduates up-to-date with the IEHM program
- Identify alumni volunteers to recruit in their local area (i.e. at the local high school or career fair)
- Develop and distribute a standardized recruiting package for alumni to use when recruiting for IEHM

Emphasis Area 5 — Recruiting Materials and Incentives

The IEHM program faculty needs recruiting materials and other incentive items to use in recruiting activities. Example materials in this emphasis area may include:

- Recruiting packets (FSU and IEHM program information, such as brochures, checksheets, scholarship information, financial aid brochures)
- Pens, cups, highlighters, folders, and other incentives with program information

- Audiovisual equipment (computer and computer projection system) for giving presentations about the IEHM program

Emphasis Area 6 — Assessment

The IEHM program faculty plans to assess the success of the recruiting activities. The program faculty believes it is important to identify the activities that prove successful in recruiting students and focus on those areas. Example activities in this emphasis area may include:

- New students in the program will be surveyed to determine how they found out about the program and where they came from (i. e. transfer student, county, high school, etc.). The survey will be administered, each fall and winter, in the IEHM 101 Introduction to Industrial and Environmental Health Management course.
- On an annual basis, the faculty will evaluate the success of the various recruiting activities by determining which activities resulted in students entering the program.
- Results from the various assessment tools identified will provide direction on future recruiting activities.

APPENDIX B — IEHM FIVE-YEAR PRIORITIZED EQUIPMENT LIST

Essential Equipment List for 1999-2000

	Vendor	Unit Cost	Quantity	Estimated Cost
Hach DR/2010 Spectrophotometer.	Hach	$1,595.00	1	$1,595.00
Additional Reagent Sets for the DR/2010 as follows:				
Cadmium		$286.00	1	$286.00
Chloride		$29.75	1	$29.75
Chlorine, Free (USEPA)		$13.25	1	$13.25
Chlorine, Total (USEPA)		$13.50	1	$13.50
Copper (USEPA)		$22.00	1	$22.00
Cyanuric Acid		$11.80	1	$11.80
Fluoride (USEPA)		$10.25	1	$10.25
Hardness, Calcium or Magnesium as Ca Carbonate		$32.80	1	$32.80
Hardness, Total		$112.75	1	$112.75
Iron, Ferrous		$11.30	1	$11.30
Iron, Total (USEPA)		$11.80	1	$11.80
Lead (USEPA)		$271.65	1	$271.65
Lead (LeadTrak□)		$98.75	1	$98.75
Manganese (HR) (USEPA)		$30.00	1	$30.00
Nickel (USEPA)		$132.25	1	$132.25
Nitrogen, Ammonia LR TNT		$53.35	1	$53.35
Nitrogen, Ammonia (USEPA)		$31.75	1	$31.75
Nitrogen, Nitrate LR		$46.65	1	$46.65
Nitrite (LR) (USEPA)		$19.50	1	$19.50
Nitrogen, Total Inorganic TNT		$47.00	1	$47.00
Nitrogen, Total Kjeldahl		$73.00	1	$73.00
Ozone LR AccuVac		$16.50	1	$16.50
Phenols (USEPA)		$34.50	1	$34.50
Phosphorus, Acid Hydrolyzable TNT		$34.50	1	$34.50
Quaternary Ammonium Compounds		$74.30	1	$74.30
Sulfate (USEPA)		$17.45	1	$17.45
Surfactants, Anionic		$94.00	1	$94.00
Tannin & Lignin		$39.50	1	$39.50
Zinc (USEPA)		$33.00	1	$33.00
Software Upgrade Package		$29.00	1	$29.00
Hach CEL/800 Water Quality Laboratory.	Hach			
CEL/800 Water Quality Laboratory		$2,660.00	5	$13,300.00
Additional reagent set		$345.00	5	$1,725.00
LaMotte Water Sampling Equipment.	LaMotte	$440.00	1	$440.00

Scales, Samplers, Nets, line, Dredge				
LaMotte Storm Drain Pollution Kit	LaMotte	$288.75	1	$288.75
Reagent Refill		$73.75	1	$73.75
LaMotte Limnology Test Kit.	LaMotte	$298.00	1	$298.00
Reagent Refill		$88.40	1	$88.40
Oxford Bacti-incinerator III.	Oxford	$235.00	4	$940.00
Brinkmann Pipet Helper with Membrane Filter.	Brinkman	$52.50	4	$210.00
Top Loading Electronic Balance for the Media Prep room		$1,595.00	1	$1,595.00
Capacity to 1200 g				

Electric Kit (Lab Safety Supply)	Lab Safety Supply			
	Stock #	**Unit Cost**	**Quantity**	
GFI circuit tester	10524	$97.32	2	$194.64
Continuity Tester	38281	$42.99	2	$85.98
Receptacle tester	38282	$36.61	2	$73.22
GFCI/Recpt Tester	1509-2	$22.71	4	$90.84
AC tester	17824	$15.36	3	$46.08
Voltage tick Tracer	13315	$35.96	2	$71.92
Vol/Con Tester	47180	$46.65	2	$93.30
200A DMM clamp	47350	$196.29	2	$392.58
AC Line separator	37312	$12.86	2	$25.72
Mulitimeter	37316	$50.57	4	$202.28
Temperature Probe	37317	$8.57	4	$34.28
Test Leads	37318	$8.57	4	$34.28
GFCI TRI-Cord	28227	$39.24	2	$78.48
Bonding Wire	18240	$20.47	2	$40.94
Trigger torch	TS7000	$40.00	1	$40.00
MAPP gas		$18.00	2	$36.00

ADA Test Kit (Lab Safety Supply)	Lab Safety Supply			
	Stock #	Cost	Quantity	
Force Gauge	47369	$329.00	1	$329.00
AC adapter	47370	$12.86	1	$12.86
Tachometer	47329	$282.00	1	$282.00
Reflective Tape	47333	$3.43	2	$6.86
Contact Wheel	47334	$21.43	2	$42.86

	Cole Palmer			
	Stock #	$282.00	1	$282.00
Contact Tachometer	P08203-80	$22.00	1	$22.00
Carrying Case	P08203-73	$135.00	1	$135.00
Light Meter	P01588-20	$75.00	5	$375.00
Tool Boxes	Local vender			
Mechanical/Electric Demonstration Kit	Carolina			
	Stock #	Unit cost	Quantity	
Compound Bar	AA753380	$4.95	1	$4.95
Thermostat Model	AA753386	$16.50	1	$16.50
Van De Graaff Generator	AA756214	$445.00	1	$445.00
Discharge Electrode	AA756228	$62.50	1	$62.50
Discharge Electrode	AA756229	$175.00	1	$175.00
Lighting Plate	AA756220	$19.95	1	$19.95
Manometer	AA752540	$72.50	1	$72.50
Chemical Protective Clothing Kit (Lab Safety Supply)	Lab Safety Supply			
North Butyl Gloves lighweight	8A-4375	$16.70	2 pair	$33.40
North Silver Shield Gloves (Large)	8A-7094	$41.85	1 pkg (20/pkg)	$41.85
4H Protective Apparel size 10	8A-26697	$56.10	1 pkg (20/pkg)	$56.10
Ansell Edmont PVA Gloves	8A-1835	$27.10	1 pair	$27.10
AE Scorpio Neoprone coated gloves (4 inch)	8A-8157	$7.75	2 pair	$15.50
Best n-Dex 4 mil powdered	8A-12535	$16.20	100/box	$16.20
North Clean Grip Gloves Men's	8A-3881D	$22.75	1 pkg (12pkg)	$45.50
Jomar Kevlar	8A-11913	$5.65	2 pair	$11.30
Aluminizied gloves Kevlar/Fiberglass	8A-23487	$54.65	1 pair	$54.65
PVC/NYLON Coverall XL	8A-6892	$43.25	1 suit	$43.25
Bata HAZMAX Boots Size 10	8A-40074	$63.45	1 pair	$63.45
Hearing Protection Kit (Lab Safety Supply)	Lab Safety Supply			
Reusable Foam earplugs-corded	8A-10074	$60.05	1 box	$60.05
Elvex Blue Earplugs-uncorded	8A-16589	$28.08	1 box	$28.08
Howard Leight & Laser Lite Disposible uncorded	8A-26730	$23.90	1 box	$23.90
Silents Ergo 2001 Earmuffs	8A-10072	$21.10	1 pair	$21.10
Bilsom Pocket Earmuffs	8A-22105	$21.45	1 pair	$21.45
Survivair Probed cartridge fit-test adapter	Argus Supply Company	$50.20	2 sets	$100.40
Air Sampling Accessories	SKC			
2 pkg (10/pkg)	225-13-2	$19.00	2	$38.00
2 pkg (10/pkg)	225-13-6	$20.00	2	$40.00

DC-Lite Primary Flowmeter (SKC)	SKC	$995.00	1	$995.00
Interactive Air Sampling Training on CD-ROM (SKC)	SKC	$149.00	1	$149.00
Analytical Methods Manual, 4th Edition(SKC)	SKC	$70.00	1	$140.00
Quest Temp 10 Area Heat Stress Monitor (SKC)	SKC	$1,085.00	1	$1,085.00
5-pack pocket pump kit w/multicharger in carrying case (SKC)	SKC	$3,309.00	1	$3,309.00
Thermocouple thermometers with 2 surface temperature probes		$500.00	3	$500.00

AY 2000-2001:

		Unit cost	Quantity	Estimated Cost
Binocular Dissecting Stereoscopic Zoom Microscopes.				
2.5X-4.0X zoom capability with 10X occulars		$2,095.00	2	$4,190.00
With gooseneck halogen light units		$707.00	2	$1,414.00
Thomas Scientific 98-99, p. 956 (scopes), p. 970 (lights).				
Binocular Microscopes, similar to the five Olympus CH-2 models		$1,700.00	2	$3,400.00
10X occulars, and 10X, 40X, and 100X (Oil immersion) objectives.				
Thomas Scientific 98-99, p. 957 (scopes)				
Oxford Bacti-incinerator III.		$235.00	4	$940.00
Brinkmann Pipet Helper with Membrane Filter.		$52.50	4	$210.00
DR/2000 Spectrophotometer Test Kits				
Chromium hexavalent (USEPA)		$16.25	1	$16.25
Chromium hexavalent(Accu Vac) (USEPA)		$13.60	1	$13.60
Chromium, total		$69.50	1	$69.50
Lead (USEPA)		$271.65	1	$271.65
NIST Traceable Standards		$48.75	1	$48.75
Microscopes (2)				
TitraStir (Stir Plate)		$435.00	6	$2,610.00
Hach DR 100 Colorimeters for the following analyses:				
Lead		$399.00	1	$399.00
Ammonia Nitrogen		$299.00	1	$299.00
Nitrate Nitrogen		$378.00	1	$378.00
Magnetic Stirring Bars (Assortment)		$50.00	1	$50.00
Velometers		$650.00	4	$2,600.00
Inclined Manometers (Dwyer)		$50.00	3	$150.00
AMS Env. Soil Sampling Kit (stainless steel)	Forestry Supply	$1,700.00	1	$1,700.00
PPE Assortment, gloves, respirators, boots, etc.	Lab Safety	$1,000.00	1	$1,000.00
Gully sealing bag to seal outfalls	Forestry Supply	$795.00	1	$795.00
PAPR Respirator	Lab Safety	$1,000.00	1	$1,000.00
Lead test kit	Lab Safety	$40.00	4	$160.00
Draeger HAZMAT organic vapor kit	Lab Safety	$1,800.00	1	$1,800.00
Blaq Box IAQ kit	Lab Safety	$3,500.00	1	$3,500.00
Weather monitoring station	Lab Safety	$450.00	1	$450.00
Stormwater drain pollution test kit	Lab Safety	$500.00	1	$500.00
Biodegradeable tracers	Lab Safety	$250.00	1	$250.00
Lead test kit for soil	Lab Safety	$75.00	3	$225.00
Light sticks	Lab Safety	$100.00	2	$200.00
CFRs on CD - 4 quarterly issues	FastSearch Regs	$400.00	1	$400.00
			Total	$29,039.75

AY 2001-2002:

		Unit cost	Quantity	Estimated Cost
Binocular Dissecting Stereoscopic Zoom Microscopes.				
2.5X-4.0X zoom capability with 10X occulars		$2,095.00	2	$4,190.00
With gooseneck halogen light units		$707.00	2	$1,414.00
Thomas Scientific 98-99, p. 956 (scopes), p. 970 (lights).				
Binocular Microscopes, similar to the five Olympus CH-2 models		$1,700.00	2	$3,400.00
10X occulars, and 10X, 40X, and 100X (Oil immersion) objectives.				
Thomas Scientific 98-99, p. 957 (scopes)				
Oxford Bacti-incinerator III.		$235.00	4	$940.00
Brinkmann Pipet Helper with Membrane Filter.		$52.50	4	$210.00
Hach CEL/800 Water Quality Laboratory.				
CEL/800 Water Quality Laboratory		$2,660.00	5	$13,300.00
Additional reagent set		$345.00	5	$1,725.00
Total Petroleum Hydrocarbon Test Kits:				
TPH in Soil: (26411-00)		$995.00	1	$995.00
TPH in Soil Resupply Kit		$184.80	1	$184.80
TPH in Water:		$755.00	1	$755.00
TPH in Water Resupply Kit		$138.60	1	$138.60
Ambient Air Quality Monitoring Equipment				
Other Gaseous Monitoring Equipment		$30,000.00	1	$30,000.00
Exhaust Blower Motor for ventilation testing system		$1,700.00	1	$1,700.00
Multipack spill kit		$400.00	1	$400.00
Flowmeter, sensor, software		$3,500.00	1	$3,500.00
Compost bins & thermometers		$150.00	3	$450.00
Turbometer wind velocity meter		$200.00	1	$200.00
PPE Assortment, gloves, respirators, boots, etc.	Lab Safety	$1,000.00	1	$1,000.00
SCBA	Forestry Supply	$3,500.00	2	$7,000.00
Tyvex Coveralls (25/case)	Forestry Supply	$150.00	3	$450.00
Abrams CB-1 sterioscope	Forestry Supply	$120.00	3	$360.00
Slickwik containment boom 4"X6"X25'	Lab Safety	$500.00	2	$1,000.00
AMS Env. Soil Sampling Kit (stainless steel)	Forestry Supply	$1,700.00	1	$1,700.00
Wheaton reusable coliwasa	Forestry Supply	$175.00	1	$175.00
Watermark disposable poly coliwasa	Forestry Supply	$75.00	1	$75.00
Watermark poly water bailer	Forestry Supply	$130.00	1	$130.00
Watermark poly water sampler	Forestry Supply	$280.00	1	$280.00
CFRs on CD - 4 quarterly issues	FastSearch Regs	$400.00	1	$400.00
			Total	$76,072.40

AY 2002-2003:

		Unit cost	Quantity	Estimated Cost
Binocular Dissecting Stereoscopic Zoom Microscopes.				
2.5X-4.0X zoom capability with 10X occulars		$2,095.00	2	$4,190.00
With gooseneck halogen light units		$707.00	2	$1,414.00
Thomas Scientific 98-99, p. 956 (scopes), p. 970 (lights).				
Binocular Microscopes, similar to the five Olympus CH-2 models		$1,700.00	2	$3,400.00
10X occulars, and 10X, 40X, and 100X (Oil immersion) objectives.				
Thomas Scientific 98-99, p. 957 (scopes)				
Oxford Bacti-incinerator III.		$235.00	4	$940.00
Brinkmann Pipet Helper with Membrane Filter.		$52.50	4	$210.00
Individual Heavy Metal Test Kits:				
Chromium (46700-17)		$299.00	1	$299.00
Cobalt/Nickel (46700-20)		$299.00	1	$299.00
Copper (46700-19)		$299.00	1	$299.00
Hach ONE ISE Electrodes:				
Cyanide/Io (Package Price*)		$740.00		$0.00
Calcium (Package Price*)		$475.00		$0.00
* includes all supplies and accessories				
Ambient Air Quality Monitoring Equipment				
PM10 Suspended Particulate Monitor		$12,500.00	1	$12,500.00
AMS Env. Soil Sampling Kit (stainless steel)	Forestry Supply	$1,700.00	1	$1,700.00
PPE Assortment, gloves, respirators, boots, etc.	Lab Safety	$1,000.00	2	$2,000.00
PAPR Respirator	Lab Safety	$1,000.00	1	$1,000.00
Lead test kit	Lab Safety	$40.00	4	$160.00
Photovac TIP II	Lab Safety	$7,000.00	1	$7,000.00
Draeger HAZMAT organic vapor kit	Lab Safety	$1,800.00	1	$1,800.00
JIM-GEM English area grid	Forestry Supply	$8.00	2	$16.00
Silva Map measure	Forestry Supply	$15.00	2	$30.00
Atlas of Stereoscopic aerial photographs	Forestry Supply	$60.00	2	$120.00
Abrams CB-1 sterioscope	Forestry Supply	$120.00	3	$360.00
CFRs on CD - 4 quarterly issues	FastSearch Regs	$400.00	1	$400.00
			Total	$38,137.00

AY 2003-2004:

		Unit cost	Quantity	Estimated Cost
Binocular Dissecting Stereoscopic Zoom Microscopes.				
2.5X-4.0X zoom capability with 10X occulars		$2,095.00	2	$4,190.00
With gooseneck halogen light units		$707.00	2	$1,414.00
Thomas Scientific 98-99, p. 956 (scopes), p. 970 (lights).				
Binocular Microscopes, similar to the five Olympus CH-2 models		$1,700.00	2	
10X occulars, and 10X, 40X, and 100X (Oil immersion) objectives.				
Thomas Scientific 98-99, p. 957 (scopes)				
Oxford Bacti-incinerator III.		$235.00	4	$940.00
Brinkmann Pipet Helper with Membrane Filter.		$52.50	4	$210.00
Electronic Colony Counters				
Manostat Colony Counter		$189.95	10	$1,899.50
Three Place Vacuum Manifold for Membrane Filtration:		$560.00	1	$560.00
Spectrophotometer Cells				
10 mm lightpath, set of 4		$127.00	1	$127.00
1 mm lightpath, $127 each, need 2		$127.00	2	$254.00
20 mm lightpath, set of 2 (UV)		$197.50	2	$395.00
100 mm lightpath cell, set of 2		$265.00	2	$530.00
LaMotte Corrosion Control Test Kit:				
Corrosion Control Test Kit		$275.10	1	$275.10
Reagent Refill		$38.95	1	$38.95
Multipack spill kit		$400.00	1	$400.00
Flowmeter, sensor, software		$3,500.00	1	$3,500.00
HAZMAT Library	Lab Safety	$1,500.00	1	$1,500.00
Turbometer wind velocity meter		$200.00	1	$200.00
PPE Assortment, gloves, respirators, boots, etc.	Lab Safety	$1,000.00	1	$1,000.00
SCBA	Forestry Supply	$3,500.00	2	$7,000.00
Tyvex Coveralls (25/case)	Forestry Supply	$150.00	3	$450.00
Abrams CB-1 sterioscope	Forestry Supply	$120.00	3	$360.00
Slickwik containment boom 4"X6"X25'	Lab Safety	$500.00	2	$1,000.00
AMS Env. Soil Sampling Kit (stainless steel)	Forestry Supply	$1,700.00	1	$1,700.00
Wheaton reusable coliwasa	Forestry Supply	$175.00	1	$175.00
Watermark disposable poly coliwasa	Forestry Supply	$75.00	1	$75.00
Watermark poly water bailer	Forestry Supply	$130.00	1	$130.00
Watermark poly water sampler	Forestry Supply	$280.00	1	$280.00
CFRs on CD - 4 quarterly issues	FastSearch Regs	$400.00	1	$400.00
			Total	$29,003.55

AY 2004-2005:

		Unit cost	Quantity	Estimated Cost
Binocular Dissecting Stereoscopic Zoom Microscopes.				
2.5X-4.0X zoom capability with 10X occulars		$2,095.00	2	$4,190.00
With gooseneck halogen light units		$707.00	2	$1,414.00
Thomas Scientific 98-99, p. 956 (scopes), p. 970 (lights).				
Binocular Microscopes, similar to the five Olympus CH-2 mod		$1,700.00	2	$3,400.00
10X occulars, and 10X, 40X, and 100X (Oil immersion) objectives.				
Thomas Scientific 98-99, p. 957 (scopes)				
Tannin/Lignin Test Kit:		$92.75	1	$92.75
Hach BODTrak Apparatus.		$1,550.00	1	$1,550.00
Hach Conductivity Meter (CO150).				
CO150 Conductivity Meter		$590.00	1	$590.00
Conductivity Standard		$7.45	1	$7.45
Model 50 Printer		$429.00	1	$429.00
Battery Eliminator		$41.50	1	$41.50
Dissolved Solids Meter (Pocket Sized)		$60.00	1	$60.00
Digesdahl Digestion Apparatus for Total Kjeldahl Nitrogen				
Digestion apparatus		$795.00	5	$3,975.00
Safety shields		$395.00	5	$1,975.00
TKN standards		$71.75	5	$358.75
Hydrogen peroxide dispenser		$97.00	1	$97.00
Vinyl Flags	Forestry S	$10.00	9	$90.00
Vinyl Flags carrier	Forestry S	$10.00	3	$30.00
Wheeled coolers	Forestry S	$60.00	4	$240.00
Hip Boots	Forestry S	$75.00	6	$450.00
Havahart live traps	Forestry S	$100.00	1	$100.00
Gully sealing bag to seal outfalls	Forestry S	$795.00	1	$795.00
PPE Assortment, gloves, respirators, boots, etc.	Lab Safety	$1,000.00	1	$1,000.00
SCBA	Forestry S	$3,500.00	2	$7,000.00
CFRs on CD - 4 quarterly issues	FastSearc	$400.00	1	$400.00
PAPR Respirator	Lab Safety	$1,000.00	1	$1,000.00
Lead test kit	Lab Safety	$40.00	4	$160.00
Draeger HAZMAT organic vapor kit	Lab Safety	$1,800.00	1	$1,800.00
Blaq Box IAQ kit	Lab Safety	$3,500.00	1	$3,500.00
Weather monitoring station	Lab Safety	$450.00	1	$450.00
stormwater drain pollution test kit	Lab Safety	$500.00	1	$500.00
Biodegradeable tracers	Lab Safety	$250.00	1	$250.00
Lead test kit for soil	Lab Safety	$75.00	3	$225.00
Light sticks	Lab Safety	$100.00	2	$200.00
			Total	$36,370.45

Industrial & Environmental Health Management

APRC Progress Report

1998-1999

Extra pages: 1

Memo - From: Isabel J Barnes on 04/09/99 02:44 PM ***

To: CN=Kevin Besey/O=FSU@Ferris, CN=Lori A Seiler/O=FSU@Ferris, CN=Michael D Ells/O=FSU@Ferris, CN=Gary L Rodabaugh/O=FSU@Ferris, CN=Bradley S Mccormick/O=FSU@Ferris, CN=Janice M Webster/O=FSU@Ferris

cc: (bcc: Douglas I Haneline/FSU)

Subject: APRC Progress Report

Thank you for sending me a copy of the report. I am glad that your session with the APRC went so well.

Just wanted to let you know that yesterday I notified Janice of the approved equipment purchases. The IEHM equipment approved included the Hach DR/2010 Spectrophotometer, the Hach CEL/800 Water Quality Laboratory, the top loading electronic balance, the DC-Lite Flowmeter, the Quest Temp 10 Area Heat Stree Monitor and the 5-pack pocket pump kit with multicharger. This includes all those items on your AY1999--2000 list that are classified by the University as equipment (capital items.)

I realize that there are many items on that list that were not approved for puchase. That is because they are classified as supplies. I recognize that these items are also important for your instructional program. If S&E dollars become available toward the end of the year, I will consider these items for purchase at that time. I regret that they can not be purchased at this time but I hope that we can purchase some of the items prior tothe close of FY99.

Isabel