

Occupational Safety, Health, and Environment (OSH&E) Program  
Department of Computer Science and Industrial Technology  
Southeastern Louisiana University  
SLU 10847  
Hammond, LA 70402

June 30, 2011

Dear OSH&E Advisory Committee Member,

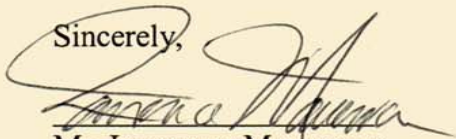
On behalf of Southeastern Occupational Safety, Health, and Environment (OSH&E) Program, we would like to give our sincere appreciation for your involvement in the OSH&E Advisory Committee as well as your participation in the meetings and discussion.

Enclosed please find the report of the OSH&E Advisory Committee meeting that was held on April 8, 2011. Please feel free to let us know should you have your questions and comments!

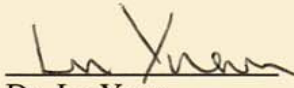
Our first meeting for the upcoming 2011-2012 academic year will be held as part of the Annual Departmental Advisory Committee Meeting. The meeting is usually scheduled sometime in October on the Hammond campus. A formal letter will be sent to you when the meeting date and venue are determined.

Thank you very much for your consistent contribution to the program!

Sincerely,



Mr. Lawrence Mauerman  
Coordinator, OSH&E



Dr. Lu Yuan  
Assistant Professor



Ms. Dorinda Folse  
OSH&E IAC Chairperson

## **OSH&E Advisory Committee April 8, 2011 Meeting Report by Dr. Lu Yuan**

The last Occupational Safety, Health, and Environment (OSH&E) Advisory Committee meeting was held from 9:30 AM to 1:00 PM on April 8, 2011 in Anzalone Hall 214 on the Hammond campus. (Please see the attached example photos!) The attendees include twelve of the twenty OSH&E Advisory Committee members (Appendix A with updated information). Mr. Lawrence Mauerman, Drs. Lu Yuan and Ephraim Massawe, the three full-time faculty members of the OSH&E program, were co-hosts of the meeting. Three OSH&E students, Roland McFarlane, Gregory Culberson, and Jack Lavergne, were present. Absent were Richard Matherne, Don Jones, Wayne LaCombe, Dorinda Folse, Buddy Mincey Jr., Alex Appeaning, Owens O'Quinn, and Glenn Young.

Appendix B contains the agenda of the meeting, which started with the welcoming from Mr. Lawrence Mauerman. He appreciated the time that the advisory members have spent to help the program continuously improve, especially during the ABET site visit which took place in October 2010. A self-introduction among the attendees was then made.

Under old business, Dr. Yuan first presented how the OSH&E program has responded to the ABET site visit statement. Concrete plans and actions have been implemented to address the two weaknesses, three concerns, and one observation that the ABET has drafted in the site visit statement. These actions include, but are not limited to: adding a new required OSHE course, *OSHE 452 Pollution Fundamentals and Control Technologies*; revising existing courses and program outcomes to add more environmental contents; continuing the program outcome assessment according to the plan and timeline; OSH&E faculty members pursuing the CSPs and/or CIHs; purchasing new OSH&E related equipment and instruments; and continuing the effort to emphasize the communication requirements for OSH&E majors. The complete response to ABET site visit statement is included in Appendix C.

Mr. Mauerman then talked about the academic program review that was required by Southeastern Louisiana University earlier this year. Such a review was mandated because the OSH&E program was considered a high-cost one based on the cost-per-capita calculation. Over the past couple of months, the OSH&E faculty members have worked on collecting program-related information including enrollment and completer data, space/facilities available to OSH&E, projected enrollment and completers in the next five years, graduate job placement, achievement of the OSH&E faculty and students, and contribution of the OSH&E program to economic and cultural development of the state, etc. Overall, the review has received very positive feedback from the Southeastern administration. The complete review is available in Appendix D.

Several advisory members (Rick, Don Steadman, and Connie) questioned the distribution of OSH&E student classification. Currently, it appears that the number of OSH&E seniors is much higher than other classes. The total number of OSH&E students might decrease significantly after these seniors graduate which might happen in a year or less. The advisory members felt that more advertizing and recruiting work need to be done to ensure the sustainable growth of the OSH&E student body. The OSH&E faculty members agreed, and Dr. Yuan also explained that

the high number of OSH&E seniors was partially due to the fair amount of transfer students (who have already got enough credits to be categorized as seniors).

Next, Dr. Yuan discussed the University Unit Academic Assessment, which is also a new requirement from Southeastern based on the SACS (Colleges of the Southern Association of Colleges and Schools) accreditation. As the OSH&E program benefited greatly from the preparation for the ABET accreditation, it did not take too much additional time and effort to complete the Unit Academic Assessment Plan/Report which was due by April 1, 2011. A copy of such report is attached in Appendix E.

The last item under old business is the presentation of internship and employment for OSH&E majors. Mr. Mauerman was glad to present the recent internship and employment opportunities, as well as recent employment, for OSH&E students (Appendix F). Overall, we have received a great number of local and regional companies and organizations who are interested in hiring the OSH&E students and graduates. Some of the advisory members have also provided either internship or employment or both for the OSH&E graduates, which was greatly appreciated.

The meeting was then entering the discussion on new business. Dr. Yuan explained the next step for the ABET accreditation (Appendix G). He mentioned that there were still time available until the end of June 2011 to send any additional official documents as evidence to ABET.

Meanwhile, Dr. Massawe updated the meeting attendees on the OSH&E curriculum request for change (Appendix H). These changes were aimed for both the ABET accreditation and the University 120-credit-hour mandate. All of these changes have been approved by the University Curriculum Council and will be reflected in the 2011-2012 University General Catalogue.

In the end, Dr. Yuan shared his experience of teaching the first-ever Internet class for OSHE, *OSHE 112 Design of Hazard Controls* in the fall 2010 semester. The class materials including syllabus, guidelines for exams and final project, lecture slides, and assignment were all posted online; but, students need to come to the classroom to take the three exams. Overall, the class went very well. The OSH&E faculty members have decided to continue the Internet class offering in the summer 2011 semester. Furthermore, Dr. Yuan announced that the OSH&E faculty members have been working with Rick and the Safety Council of Louisiana Capital Area (LCA) to explore the possibility of offering OSHE courses at the Safety Council LCA for both credit and non-credit purposes.

The meeting adjourned at 12 PM. We cordially appreciate Mr. Rick Saizan of the Safety Council of Louisiana Capital Area for sponsoring the lunch.





# Appendix A

## OSH&E Advisory Committee

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**\* - We are saddened to learn the death of Legier Kuhner.**



**Appendix B**  
**OSH&E Advisory Committee**

**Semi-Annual Meeting Agenda**

April 8, 2011

<u>Time</u>	<u>Issues</u>	<u>Actions</u>
9:30 - 9:45 am	Welcome & Introduction (By Mr. Lawrence Mauerman)	
9:45 - 10:45 am	Old Business	
	1. Response to ABET Site Visit Statement (By Dr. Lu Yuan)	
	2. University Program Review (By Mr. Lawrence Mauerman)	
	3. University Unit Academic Assessment (By Dr. Lu Yuan)	
	4. Internship & Employment for OSH&E (By Mr. Lawrence Mauerman)	
10:45 - 11:45 am	New Business	
	1. ABET Next Step (By Dr. Lu Yuan)	
	2. OSHE Curriculum Update (By Dr. Ephraim Massawe)	
	3. OSHE Course Offering (By Dr. Lu Yuan)	
	4. Others	
11:45 - 12:00 pm	Portrait & Group Picture	
12:00 pm	Lunch (Courtesy of Mr. Rick Saizan and the Safety Council of Louisiana Capital Area)	

Appendix C

**Department of Computer Science & Industrial Technology**

**Southeastern Louisiana University**

**Hammond, LA**

**Response to the Draft Statement for the OSHE Program Review**

**ABET - Applied Science Accreditation Commission**

**ABET, Inc.**

**111 Market Place, Suite 1050**

**Baltimore, MD 21202**

Dates of Visit:           October 17 – October 19, 2010

Team Chairperson        Dr. Robert D. Soule

Program Evaluators     Peter A. Scheff  
                                  Magdy Akladios

**January 5, 2011**

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Contact: Dr. Cris Koutsougeras  
Phone: 985-549-2189  
ck@selu.edu

## Introduction

The faculty of the Department of Computer Science & Industrial Technology would like to thank ABET as well as the review team for their consideration and diligent work during this review process. We also appreciate the opportunity to comment on the draft report. This document is the response of the University and describes the actions to address the issues raised by the reviewers.

## Review topics and responses

### Program Weaknesses

1. Criterion 5: Curriculum: The ABET Draft Statement states “*Southeastern Louisiana University's OSHE program outcome 2B4, as identified in the self study, is specifically mapped to ABET (l) and (m) content areas, and outcomes 2B1 and 2B3 are mapped to ABET content area (o). The courses identified in the 2010 self-study that address these outcomes contain limited content on environmental (air and water) pollution fundamentals, control technologies, sampling and measurement methodologies. While the coverage meets the criteria, additional material will be needed to fully cover ABET specific curricular content areas to assure strength of compliance with the criteria.*”

We have worked on two fronts to address this particular issue. On one front, we have revised the pertinent OSHE course specification sheets\*, particularly course title and description, minimum topics, and course objectives, to add environmental content. These revisions include:

- 1) Change of the title of OSHE 111 “Introduction to Occupational Safety and Health” to “Introduction to Occupational Safety, Health, and Environment”.
- 2) Revision of the course specification sheet for OSHE 251 as follows: The list of major required topics in “Environmental Laws and Regulations” was augmented with a section on “overview of environmental pollution and control technologies for air, water, and soil”. Also, a new course objective was added to “identify and evaluate typical environmental pollution control technologies for air, water, and soil” for OSHE 251.
- 3) Addition of “environmental sampling” and “Resources – EPA” to the major topics of OSHE 341 Field Methods of Industrial Hygiene and Toxicology.

Recognizing that the above actions guarantee breadth but at introductory levels, we also worked on a second front and added a new required course (OSHE 452 Pollution Fundamentals and Control Technologies) to the fourth year, first semester of the curriculum. This course introduces more in-depth material in environmental pollution fundamentals, control technologies, evaluation of their performance, etc.

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\* Course specification sheets are generic syllabi controlled, maintained, and documented by the department curriculum committee and define the topics, learning objectives, and learning outcomes which must be covered in the least by the corresponding courses.

The addition of the new course OSHE 452, as well as the revision of the OSHE 251 have been approved by the departmental program curriculum committee and by the Science & Technology College curriculum committee (the Department of Computer Science & Industrial Technology is in the College of Science & Technology). The relevant paperwork is copied in Appendix A.

2. Criterion 9. Program Criteria: The ABET Draft Statement states *“The OSHE program outcome 2B4, as identified in the self study, is specifically mapped to ABET (l) and (m) content areas, and outcomes 2B1 and 2B3 are mapped to ABET content area (o). The courses identified in the 2010 self-study that address these outcomes contain limited content on environmental (air and water) pollution fundamentals, control technologies, sampling and measurement methodologies. While the coverage meets the criteria, additional material will be needed to fully cover ABET specific curricular content areas to assure strength of compliance with the criteria.”*

The curriculum changes that we have made to address the above weakness #1 also serve to address this weakness by enhancing the required material to cover the areas mentioned. In addition, we have also revised the descriptions of program outcomes, especially 2B1, 2B3, and 2B4, to reinforce the coverage on environmental content. The modified program outcomes 2B1, 2B3, and 2B4 now read:

2B1: Students know how to utilize basic laboratory instrumentations associated with safety, health, and environment.

2B3: Students know fundamental exposure assessment and environmental sampling techniques.

2B4: Students know how to develop control designs, methods, procedures, and programs to eliminate or mitigate safety, health, and environmental hazards.

The revised OSH&E Program Outcomes, as well as other pertinent documents for their assessment, including the OSH&E Major Field Assessment Plan, Rubrics for Assessing the OSH&E Program Outcomes, OSHE Courses that Satisfy Competencies for OSHE BS Program, and OSHE Course Specification Sheets, have been posted on the CSIT **Accreditation Information** web page at [http://www.selu.edu/acad\\_research/depts/cs\\_it/accreditation/index.html](http://www.selu.edu/acad_research/depts/cs_it/accreditation/index.html).

### Program Concerns

1. Criterion 4: Continuous Improvement: The ABET Draft Statement states *“The overall continuous improvement process, presented in the self-study report and elaborated upon during meetings with program faculty, is very well defined and completely addresses the elements of the “three-year plan” used as the basis for the process. At the time of the site visit, full assessment of outcomes had been completed for approximately two-thirds of the program outcomes, with the remainder to be completed by the end of academic year 2011-2012. Full compliance with this criterion requires completion of the assessment plan in progress at the time of the site visit.”*

We have continued to assess the program outcomes according to the “three-year plan”. The action plans for 2009-2010 have been implemented and evaluated in fall 2010 to close the loop. The assessment plan for 2010-2011 was addressed by the OSHE faculty members in the beginning of Fall 2010. The individual assessment for Fall 2010 has been completed and the results will be discussed in the Spring 2011. We will follow up with an addendum in the Spring 2011 documenting the completion of this schedule, well in advance of ABET’s summer Commission meeting.

2. Criterion 6: Faculty: The ABET Draft Statement states *“The SELU program has four faculty (two tenure-track, one full-time instructor and an adjunct instructor). The two tenure-track faculty have doctorates and the other two faculty members are certified safety professionals, but it does not appear from the Self Study Report that there are plans for further professional certifications to be attained. There is concern that, without commitment to a professional development plan for program faculty that addresses achievement of terminal degrees and/or relevant certifications, the necessary credentialing of faculty could be lost.”*

Two tenure-track faculty members, Dr. L. Yuan and Dr. E. Massawe, have made plans to pursue professional certifications. In particular, Dr. Ephraim Massawe is already scheduled to take the examination for Certified Safety Professional in early 2011. Appendix B shows his exam schedule and paid application fee. Dr. Lu Yuan will also take the CSP exam in the summer of 2011. Their further plans also include: Dr. Massawe for CIH (Certified Industrial Hygienist) and Dr. Yuan for CPE (Certified Professional Ergonomist).

3. Criterion 7: Facilities: The ABET Draft Statement states *“While there exist lab equipment related to industrial hygiene, and a very few ergonomics tools, there seemed to be no safety-related equipment. Furthermore, the short list that was verbally provided during the visit seemed to be equipment owned by one faculty member, as opposed to being available to the school. Although this faculty member has stated that the equipment would remain available, there is concern regarding this arrangement.”*

We have done a complete review of curricular needs for equipment and a survey of OSHE related equipment as well as a survey of equipment in programs elsewhere, and developed an acquisition list. The items detailed in the list of appendix C have been ordered; they will be permanent university owned equipment.

### Program Observation

1. The ABET Draft Statement states *“Review of course materials indicated that students are required to communicate findings, both orally and in writing, in many major courses. However, review of program materials and discussion with various constituencies, most notably the several alumni of the program who were interviewed, suggested that students should receive a more substantial preparation in communication skills, particularly technical writing skills. Increasingly, the safety/health/environment professional is required to communicate effectively with various constituencies and, to some extent, the preparation of the OSE professional in communication skills is as important as the technical skills that make up the program.”*

We agree and we have already identified the necessity for improvement in communication skills as an objective target for the department. This means action beyond the English 322 “Introduction to Professional and Technical Writing” and the Communication 211 “Introduction to Public Speaking” coursework. As it has become standard practice for all programs in the CSIT department in the recent years, we are requiring OSHE students to produce written reports as well as oral presentations in individual and group formats. This is a practice that is strongly suggested to the entire department faculty for all projects or assignments in which it is pertinent.

## **Appendix A**

1. New OSHE 452 course
2. Revision of OSHE 111 course specification sheet
3. Revision of OSHE 251 course specification sheet
4. Revision of OSHE 341 course specification sheet
5. New OSHE 452 course specification sheet
6. Old and new curriculum sheets





# Request for New Course

**Form Instructions:**

Please complete this form and print on PINK paper. Please note that form fields will expand to accommodate your needs. Print on the front and back of sheet if form expands to 2 pages. Forward to the appropriate persons for their Approval/Denial in the order indicated below. Once Approval is received from the Graduate Council, make sixteen (16) copies of the signed form and forward the original with copies to the Ex-Officio.

Submitted by College of: <b>College of Science and Technology</b>		Date: <b>12/15/2010</b>
Department offering course: <b>Computer Science and Industrial Technology</b>		Proposed CIP code (HEGIS):
Proposed course prefix, course number, course title, and catalog description as it will appear in the catalog: <b>OSHE 452 Pollution Fundamentals and Control Technologies. Credit 3 hours. Prerequisite: OSHE 251. This course explores the mechanisms of air, water and soil pollution and the steps to eliminate or minimize impacts on the ecology and human health and safety. The course is also designed to explore the existing pollution prevention and control technologies and the evaluation of their performance.</b>		
Page numbers affected in the current catalog: <b>436</b>	Course to be offered: <input checked="" type="checkbox"/> Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer	Frequency of course offering: <b>Once a year</b>
Why is this course needed? <b>Additional content required for OSHE majors in accreditable OSH&amp;E programs.</b>	What enrollment may be reasonably anticipated? <b>25 Per Course Offering</b>	
List other departments/colleges that could be affected by this new course: <b>None</b>	Have these departments/colleges been notified of the proposed course? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
Additional Costs		
Personnel: \$	Facilities: \$	Equipment: \$
Supplies: \$	Travel: \$	Library Resources: \$
Total: \$		

<b>Complete the requirements for submitting Request for New Course as follows:</b>
<p>Course Outline: This course explores the mechanisms of air, water and soil pollution and the steps to eliminate or minimize impacts on the ecology and human health and safety. The course is also designed to explore the existing pollution prevention and control technologies and the evaluation of their performance. Major topics include:</p> <ul style="list-style-type: none"> <li>• Sources of air, water and soil pollutants; and their health, ecological and safety concerns</li> <li>• Air pollution control technologies e.g. cyclones, precipitators, electrostatic filters, etc.</li> <li>• Water pollution control technologies e.g. biological treatment systems</li> <li>• Soil pollution control technologies – e.g. excavation and treatment</li> <li>• Pollution prevention and cleaner production methods</li> <li>• Performance of pollution control technologies e.g. use of modeling plumes and sampling and analysis</li> <li>• Current methods of ground-level ozone pollution control methods</li> </ul>
<p>Course Objectives:</p> <ul style="list-style-type: none"> <li>• Describe the biosphere and its components e.g. hydrological cycle</li> <li>• Explain different categories and sources of air, water and soil pollution and analyze chemical and physical processes that transform or transport pollutants in the environment</li> <li>• Evaluate the impacts of air, water and soil pollution on human health and welfare (e.g. buildings and aesthetics), living organisms and the ecosystem</li> <li>• Classify the technologies for the treatment of drinking water; and the control of air, water and soil pollution</li> <li>• Select the correct pollution control technologies for specific industrial applications to meet state and federal regulatory and standard requirements</li> <li>• Evaluate the operation of various pollution control technologies for their effectiveness</li> </ul>
<p>Evaluation Method: <b>3 Exams: Exam # 1 = 15%; Exam # 2: 15%; Final Exam = 30%</b></p>

## **Course Specification Sheet**

### **OSHE 111 Introduction to Occupational Safety, Health, and Environment**

#### **Course Description:**

This course presents general safety, health, and environment concepts and terms, historical developments, program concepts and terms, legislative overview including worker's compensation law, problem identification, hazard recognition, evaluation and control concepts, and program management.

#### **Minimum Topics:**

1. Historical Perspectives
2. Safety and Health Professions
3. Theories of Accident Causation
4. Regulatory History
5. Workers' Compensation
6. Loss Control Programs
7. Injury and Illness Record Keeping
8. Identifying Hazards
9. Safety Audit & Inspection
10. Accident Investigation and Analysis
11. Computers and Information Management
12. Safety Training & Promoting Safety

#### **Course Objectives:**

1. Describe the history of the safety movement in the United States, including significant safety legislation and the importance of worker's compensation. (Related to program outcome performance criteria: 2A1, 2A2, and 2A4)
2. Describe important sources of loss control information. (Related to program outcome performance criterion: 2A1)
3. Explain how loss control information is analyzed and used to develop effective loss control programs. (Related to program outcome performance criteria: 2B2 and 2B4)
4. Relate how the elements of effective safety, industrial hygiene and environmental programs are interrelated and dependent upon one another. (Related to program outcome performance criteria: 2A1 and 2B4)

**Course Specification Sheet**  
**OSHE 251 Environmental Laws and Regulations**

**Course Description:**

This course presents an introduction to federal and state environmental regulations which impact the safety function in industry. Major topics include hazardous waste management, disposal and cleanup, technologies for the control and prevention of air, water, and soil contamination, and environmental program management.

**Minimum Topics:**

1. The Difference between Laws and Regulations
2. Important Federal Publications
3. The *Code of Federal Regulations* (CFR)
4. History of Environmental Legislation
5. Chemical Use and Assessment Laws
  - a. Toxic Substances Control Act (TSCA)
  - b. Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
  - c. Occupational Safety and Health Act (OSH Act)
6. Chemical By-Product Laws
  - a. Clean Air Act (CAA)
  - b. Clean Water Act (CWA)
  - c. Safe Drinking Water Act (SDWA)
7. Chemical Waste Disposal Laws
  - a. Resource Conservation and Recovery Act (RCRA)
  - b. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
  - c. Superfund Amendment and Reauthorization Act (SARA)
  - d. Pollution Prevention Act (PPA - 1990) and Massachusetts Toxics Use Reduction Act (TURA - 1989) & Cal Prop. 65
8. Energy Policy vs. Environmental Concerns
  - a. U.S. Energy Policy
  - b. Energy Production vs. Consumption
  - c. Energy Sources (coal, petroleum, natural gas, renewable energy) vs. Environmental Pollution
9. An Overview of Environmental Pollution and Control Technologies for:
  - a. Air
  - b. Water
  - c. Soil

**Course Objectives:**

1. Briefly describe the process by which environmental laws are passed by the legislative branch (Senate/Congress); implemented or enforced by the Executive Branch; and interpreted by the Judicial Branch. (Related to program outcome performance criteria: 2A1 and 2A2)
2. Briefly discuss the general history of the environmental movement leading to important environmental legislations in the U.S. (Related to program outcome performance criterion: 2A1)

3. Demonstrate knowledge of some environmental laws related to toxic chemical usage and emissions e.g. Toxic Chemical Substances Act (federal) and state laws such as the Massachusetts Toxics Use Reduction Act (1989) and other related laws. (Related to program outcome performance criterion: 2A2)
4. Identify and discuss the basic provisions of each of the following environmental laws and tell where, within the Code of Federal Regulations (CFR), the regulations resulting from these laws are found: TSCA; FIFRA; OSH Act; CAA; CWA; SDWA; RCRA; CERCLA; SARA; Hazardous Materials and Transportation Act (MTA); and Hazardous Materials Transportation Uniform Safety Act (HMTUSA). (Related to program outcome performance criterion: 2A4)
5. Identify and evaluate typical environmental pollution control technologies for air, water, and soil. (Related to program outcome performance criterion: 2B4)

**Course Specification Sheet**  
**OSHE 341 Field Methods of Industrial Hygiene and Toxicology**

**Course Description:**

*Prerequisites: Math 241 and OSHE 241.* This course presents an examination of the methods used by the industrial hygienist and environmental scientist or engineer for the identification and assessment of health hazards in the workplace and in the general environment. Major topics include: establishment and use of methodologies to sample and evaluate exposures to air contaminants (gasses, vapors, aerosols, and particulates), microorganisms and allergens, noise, heat, and cold stress, electrical and magnetic radiation, and ionizing and ultraviolet radiation. The course also includes equipment use, maintenance, and calibration.

**Minimum Topics:**

1. Basic Principles of Occupational and Environmental Sampling
2. Occupational Exposure Limits (OELs) and Ambient Primary and Secondary Air Standards
3. Equipment
  - a. The Right Equipment of the Job
  - b. Calibration and Maintenance of Equipment
4. Methods
  - a. Use of Sampling Protocols
  - b. Error and Accuracy
  - c. Chain of Custody
5. Resources
  - a. NIOSH
  - b. OSHA
  - c. AIHA & ACGIH
  - d. EPA
  - e. Others
6. Occupational and Environmental Sampling for Gases and Vapors
7. Occupational and Environmental Sampling for Particulates
8. Occupational and Environmental Sampling for Physical Hazards
  - a. Noise
  - b. Radiation
  - c. Barometric Hazards
  - d. Thermal Hazards

**Course Objectives:**

1. Describe the basic principles underlying sampling of air contaminants and physical agents such as noise and analytical methods - including answering questions such as the why's; what's; when's and how's of sampling. (Related to program outcome performance criterion: 2A1)
2. Design and implement air sampling programs for gases, vapors, aerosols and particulates. (Related to program outcome performance criterion: 2B3)
3. Design and implement sampling programs for other health hazards such as microorganisms, noise, heat and cold, and various radiation sources. (Related to program outcome performance criterion: 2B3)

4. Describe the common analytical methods used by accredited laboratories. (Related to program outcome performance criterion: 2A1)
5. Select, calibrate and use the proper direct and indirect reading instruments of sampling. Related to program outcome performance criterion: 2B1)
6. Use statistical data to assist in making decisions to establish violation of occupational standards such as Occupational Exposure Limits (OEL) and as a basic for controlling methods. (Related to program outcome performance criteria: 2B3 and 2B4)

## **Course Specification Sheet**

### **OSHE 452 Pollution Fundamentals and Control Technologies**

#### **Course Description:**

*Prerequisite: OSHE 251.* This course explores the mechanisms of air, water and soil pollution and the steps to eliminate or minimize impacts on the ecology and human health and safety. The course is also designed to explore the existing pollution prevention and control technologies and the evaluation of their performance.

#### **Minimum Topics:**

1. Sources of air, water and soil pollutants; and their health, ecological and safety concerns
2. Air pollution control technologies, e.g. cyclones, precipitators, electrostatic filters, etc.
3. Water pollution control technologies, e.g. biological treatment systems
4. Soil pollution control technologies, e.g. excavation and treatment
5. Pollution prevention and cleaner production methods
6. Performance of pollution control technologies, e.g. use of modeling plumes and sampling and analysis
7. Current methods of ground-level ozone pollution control methods

#### **Course Objectives:**

1. Describe the biosphere and its components, e.g. hydrological cycle. (Related to program outcome performance criterion: 2A1)
2. Explain different categories and sources of air, water and soil pollution and analyze chemical and physical processes that transform or transport pollutants in the environment. (Related to program outcome performance criteria: 2A1 and 2A3)
3. Evaluate the impacts of air, water and soil pollution on human health and welfare (e.g. buildings and aesthetics), living organisms and the ecosystem. (Related to program outcome performance criterion: 2A3)
4. Classify the technologies for the treatment of drinking water; and the control of air, water and soil pollution. (Related to program outcome performance criterion: 2B4)
5. Select the correct pollution control technologies for specific industrial applications to meet state and federal regulatory and standard requirements. (Related to program outcome performance criteria: 2A4 and 2B4)
6. Evaluate the operation of various pollution control technologies for their effectiveness. (Related to program outcome performance criterion: 2B4)



**CURRICULUM IN OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENT  
LEADING TO THE DEGREE OF BACHELOR OF SCIENCE**

(AS IN THE 2010-2011 CATALOG)

<b>FIRST YEAR</b>	
<b>FIRST SEMESTER</b>	<b>SECOND SEMESTER</b>
English 101..... 3	English 102 ..... 3
Mathematics 161 <sup>1</sup> ..... 3	Mathematics 162 ..... 3
†OSHE 111 ..... 3	Computer Science 173 ..... 3
†OSHE 112 ..... 3	†OSHE 121 ..... 3
General Biology 151 ..... 3	†OSHE 141 ..... 3
Biology Lab 152 ..... 1	
Southeastern 101 ..... 0-3	
<hr/>	<hr/>
16-19	15
<b>SECOND YEAR</b>	
Chemistry 101 ..... 3	Physics 191 ..... 3
Chemistry Lab 103 ..... 1	Physics Lab 193 ..... 1
Mathematics 241 ..... 3	Communication 211 ..... 3
Psychology 101 ..... 3	†OSHE 231 ..... 3
†OSHE 251 ..... 3	†OSHE 242 ..... 3
	†OSHE 261 ..... 3
<hr/>	<hr/>
13	16
<b>THIRD YEAR</b>	
Chemistry 102 ..... 3	Chemistry 261 ..... 3
Chemistry Lab 104 ..... 1	History 101 or 102 or 201 or 202 ..... 3
Economics 201 ..... 3	†Industrial Technology 242 ..... 3
English 230 or 231 or 232 ..... 3	English 322 ..... 3
Zoology 241 ..... 4	†OSHE 341 ..... 3
†OSHE 381 ..... 3	
<hr/>	<hr/>
17	15
<b>FOURTH YEAR</b>	
†OSHE 424 ..... 3	†OSHE 382 ..... 3
†OSHE 471 ..... 3	†OSHE 421 ..... 3
Management 351 ..... 3	†Industrial Technology 391 or 492 ..... 3
Arts <sup>2</sup> ..... 3	†Professional Elective <sup>3</sup> ..... 3
Professional Elective <sup>3</sup> ..... 3	†Professional Elective <sup>3</sup> ..... 3
<hr/>	<hr/>
15	15
Total semester hours required ..... 122-125	

Southeastern 101 is not required of transfer or readmitted Southeastern students with 30 hours or more.

<sup>1</sup> Students with an ACT Math score of 20 or lower will take Math 155 (5 credit hours) in place of Math 161, which will increase 2 credit hours the total number of hours required for the degree.

<sup>2</sup> Select one course in Art, Dance, Music or Theater.

<sup>3</sup> Professional electives should be selected in consultation with advisors.

†A "C" (2.0 minimum adjusted) must be earned in all majors and professional electives.

**CURRICULUM IN OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENT  
LEADING TO THE DEGREE OF BACHELOR OF SCIENCE**

(AS REVISED FOR THE 2011-2012 CATALOG)

<b>FIRST YEAR</b>	
<b>FIRST SEMESTER</b>	<b>SECOND SEMESTER</b>
English 101..... 3	English 102 ..... 3
Mathematics 161 <sup>1</sup> ..... 3	Mathematics 162 ..... 3
†OSHE 111 ..... 3	Computer Science 173 ..... 3
†OSHE 112 ..... 3	†OSHE 121 ..... 3
General Biology 151 ..... 3	†OSHE 141 ..... 3
Biology Lab 152 ..... 1	
Southeastern 101 ..... 2	
<hr/>	<hr/>
18	15
<b>SECOND YEAR</b>	
Chemistry 101 ..... 3	Physics 191 ..... 3
Chemistry Lab 103 ..... 1	Physics Lab 193 ..... 1
Mathematics 241 ..... 3	Communication 211 ..... 3
Psychology 101 ..... 3	†OSHE 231 ..... 3
†OSHE 251 ..... 3	†OSHE 242 ..... 3
	†OSHE 261 ..... 3
<hr/>	<hr/>
13	16
<b>THIRD YEAR</b>	
Chemistry 102 ..... 3	Chemistry 261 ..... 3
Chemistry Lab 104 ..... 1	History 101 or 102 or 201 or 202 ..... 3
English 230 or 231 or 232 ..... 3	Economics 201 ..... 3
Zoology 241 ..... 4	English 322 ..... 3
†OSHE 381 ..... 3	†OSHE 341 ..... 3
<hr/>	<hr/>
14	15
<b>FOURTH YEAR</b>	
†OSHE 424 ..... 3	†OSHE 382 ..... 3
†OSHE 452 ..... 3	†OSHE 421 ..... 3
Management 351 ..... 3	†Industrial Technology 391 or 492 ..... 3
Arts <sup>2</sup> ..... 3	†Professional Elective <sup>3</sup> ..... 3
Professional Elective <sup>3,4</sup> ..... 2	†Professional Elective <sup>3</sup> ..... 3
<hr/>	<hr/>
14	15
Total semester hours required ..... 120	

Southeastern 101 is not required of transfer or readmitted Southeastern students with 30 hours or more.

<sup>1</sup> Students with an ACT Math score of 20 or lower will take Math 155 (5 credit hours) in place of Math 161.

<sup>2</sup> Select one course in Art, Dance, Music or Theater.

<sup>3</sup> Professional electives should be selected in consultation with advisors.

<sup>4</sup> Students not required to take Southeastern 101 are required to take 4 credit hours of professional electives.

†A "C" (2.0 minimum adjusted) must be earned in all majors and professional electives.

## Appendix B

Dr. Massawe's registration for the Certified Safety Professional test

### BOARD OF CERTIFIED SAFETY PROFESSIONALS



208 Burwash Avenue, Savoy, IL 61874  
P: +1 217.359.9263  
F: +1 217.359.0055  
E: bcsp@bcsp.org  
www.bcsp.org

December 6, 2010

Ephraim A Massawe  
18044 Old Covington Hwy 107  
Hammond, LA 70403


|||||

Dear Mr. Massawe:

Please let this letter serve as a receipt for the following payment(s):

<u>Amount</u>	<u>Date Funds Received</u>	<u>Description</u>
\$160.00	November 30, 2010	Application Fee

Sincerely,

  
Thomas L. Adams, LHD, CAE  
Executive Director and Secretary

## Appendix C

### OSH&E new equipment purchases

1. **Sampling Pump Kits** (including 5 sample pumps with NiCad battery packs, adjustable low flow holders attached to Type A protective tube covers, filter cassette holders, screwdriver sets, and one 5-station PowerFlex charger with 5 cables in a Pelican case) – used for both Industrial Hygiene and Environmental fields. Details shown in Figure C.1.
2. **One set of weight plates and a box for holding them** – used for demonstration of NIOSH lifting equation.
3. **Jamar Hydraulic Hand Dynamometer** – used for measurement of grip strength.  
 Details: Jamar Hydraulic Hand Dynamometer 12-0600; -Provides accurate and repeatable grip strength readings. -Adjustable 5-position handle. -Maximum strength indicator that remains after each reading until reset. -Dual scale shows pounds (200 lbs).
4. **Ametek Chatillon DFE Series Digital Force Gauge** - used for measurement of push/pull force. Details: Chatillon Ametek Chatillon E-DFE-100 Force Gauge 100 x 0 1 lb with digital and analog outputs for both test stand and hand held applications.
5. **Personal Modular Impactor (PMI)** – used for occupational and environmental sampling. Details shown in Figure C.1.
6. **Coated Filters** - used for gravimetric analysis of vapors and aerosols. Details shown in Figure C.1.

1-1	225-1822 SKC Filter, quartz(Tissuquartz, 432um thick for sampling up to 1,000 C), 37mm, no support pad included/25 per pack
	Buyer: Janet S Danna Vendor: 000006133 SKC Gulf Coast Inc. Distribution: 571340 Acquisitions-Ed Rec Dept: 54103
2-1	225-9022 SKC Filter, ISO-Check, coated, preloaded in two-stage cassette that provides separation and collection of the vapor and particulate phases of isocyanates. One PTFE filter and one glass fiber filter.
	Distribution: 571340 Acquisitions-Ed Rec Dept: 54103
3-1	225-352 SKC Personal Modular Impactor (PMI) single-stage impactor designed for highly efficient collection of PM2.5 as defined by EPA. Includes impactor and filter cassette w/support screen.
	Distribution: 571340 Acquisitions-Ed Rec Dept: 54103
4-1	225-350 SKC Personal Modular Impactor (PMI) single-stage impactor designed for highly efficient collections of PM10@3 L/min. The PMU closely follows PM10 as defined by EPA. Includes impactor and filter cassette w/support screen.
	Distribution: 571340 Acquisitions-Ed Rec Dept: 54103

Figure C.1

**Southeastern Louisiana University  
Academic Program Review  
February 2011**

<b>Degree Program:</b> BS Occupational Safety, Health, and Environment	<b>CIP Code:</b> 15.0701
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**1. Brief description of the program, including enrollment by year classification, faculty support by type, space/facilities, and administrative support.**

Brief Narrative Description:

The Southeastern Louisiana University Occupational Safety, Health, and Environment (OSH&E) program originated as a two-year Associate of Applied Science degree in Industrial Technology with a concentration in OSHE in 1996. The Board of Regents approved the new program in the Fall of 2004.

The Bachelor of Science in OSHE is designed to provide an academically comprehensive curriculum that prepares graduates with the ability and competency to become highly qualified safety, industrial hygiene, and environmental professionals. The OSH&E program emphasizes both technical and managerial skills to assure that its graduates are ready to enter the workforce and make contributions from their very first day. Typically included are a functional knowledge and understanding of safety, health, and environment fundamentals; legal aspects of safety, health, and environmental practices; interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body; basic principles of fire prevention and protection in the workplace; industrial and construction safety throughout work processes; industrial management and human relations; communication skills, mathematics, sciences, and statistics; and practical skills of basic laboratory techniques associated with industrial hygiene and basic sciences; fundamental exposure assessment techniques; accident/incident investigation and analysis; measurement of safety performance; safety, health, and environment program management; performance of education and training for safety. Typical places of employment of the program graduates include industrial and manufacturing plants, refineries, hospitals, regulatory and other government organizations, insurance carriers, etc.

**a. Enrollment and completer data for the last three years.**

Existing Degree Program:	ENROLLMENT Data:		
	2007-2008	2008-2009	2009-2010
	38	57	53
Existing Degree Program:	COMPLETER Data:		
	2007-2008	2008-2009	2009-2010
	5	9	11

**b. Enrollment data by student classification for current semester.**

Enrollment: Declared Majors	SPRING 2011 enrollment Data:					
	FR	SOPH	JR	SR	M/Sp	PhD
	7	15	12	31		

**c. Faculty Support**

Faculty Teaching in Degree Program							
Faculty Member	Rank	Academic Year Salary	Courses Typically Taught – list each on a separate line (provide course prefix, number, and name)	Number of Course Students Majoring in Degree Program (2009-10)	Percent of Course Students Majoring in Degree Program (2009-10)	Name(s) of other Degree Programs in which course is specifically required	
Faculty Support of this Major	T	TT	FT	PT	Adjunct	Other	
Number of	0	2	1	0	1*	0	

\*Occasionally

d. Describe the Space/Facilities Dedicated to the Degree Program

Space/facilities
<p><b>Office Space</b> The OSH&amp;E program is housed in the CSIT Department. Two of the three OSH&amp;E faculty members, have their offices in the third floor of Fayard Hall. The third OSH&amp;E faculty member has his office in Anzalone.</p>
<p><b>Classroom Space</b> The OSH&amp;E program has been using both Anzalone Hall (most often room 214) and Fayard Hall (most often room 218) to teach most daytime classes. We use McClimans Hall 105 to teach compressed video classes and broadcast them live to Southeastern satellite locations including School of Nursing in Baton Rouge, Livingston Literacy and Technology Center, and St. Tammany Center. We also offer nighttime lecture classes in those locations, where we usually have plenty of available classrooms to choose.</p>
<p><b>Laboratory Space</b> We store our instructional and research laboratory instruments and equipment securely in the Biology and Industrial Hygiene Lab in Livingston Literacy and Technology Center. Each Thursday night in the Spring semester, we use the Biology and Industrial Hygiene Lab to teach Ergonomics and Field Methods of Industrial Hygiene and Toxicology classes which contain extensive hands-on activities and exercises. The Southeastern ASSE Student Section respirator fit testing project has also been conducted in the Biology and Industrial Hygiene Lab.</p>
<p><b>Computer Labs</b> There is no dedicated computer lab for OSHE; students use the general purpose computer labs available at the university. Since the OSH&amp;E classes are most often offered in Anzalone Hall and Fayard Hall of the main campus, and Livingston Parish Literacy and Technology Center, the OSH&amp;E students usually choose to work in the computer labs that are in the same building. In addition, they also work on the computers in the library, so that the library resources can be accessed at the same time.</p>
<p><b>Instruments/Equipment</b> The OSH&amp;E program has a variety of industrial hygiene, safety, and ergonomics instruments/equipment. Some of the instruments/equipment were purchased through the internal grants, and we have recently received in excess of \$60,000 donated equipment from local industrial partners including ExxonMobil and Chevron. Also, we have purchased approximately \$7,000 worth of new permanent equipment.</p>

e. Administrative/Staff Support Dedicated to the Degree Program

Position (list each staff position in direct support of degree program – dept head, AAs, directors of units that are a part of or strongly related to degree program, technicians, etc.)	Salary of Incumbent	Percentage of Workload Dedicated to Position	Indicate if Position is "Filled" or "Vacant"
Department Head		12.5% (1/4 of 50%)	filled
Admin Assistant __ G. Barrileaux (100%)		25% (1/4 of 50%)	filled
Admin Assistant __ R. Doles (75%)		18.75% (1/4 of 75%)	filled

Degree Programs Housed within Department			
	2007 – 2008	2008 - 2009	2009 - 2010
<b>AAS Industrial Technology</b>			
Enrollment	58	87	64
Completers	13	16	27
<b>BS Computer Science</b>			
Enrollment	222	240	286
Completers	20	10	15
<b>BS Engineering Technology</b>			
Enrollment	N/A	N/A	139
Completers	N/A	N/A	N/A
<b>BS Industrial Technology</b>			
Enrollment	257	270	273
Completers	53	46	46

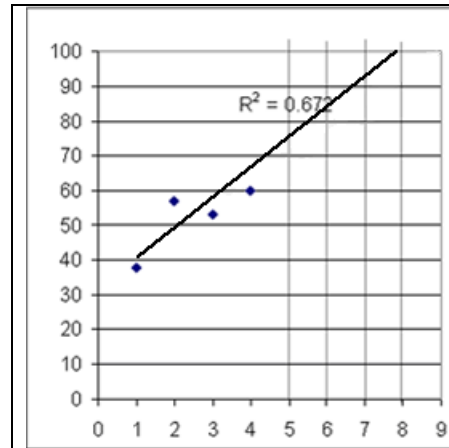
<b>BS Occupational Health, Safety &amp; Environment</b>			
<b>Enrollment</b>	<b>38</b>	<b>57</b>	<b>53</b>
<b>Completers</b>	<b>5</b>	<b>9</b>	<b>11</b>

**2. Projected enrollments (majors) and completers for the next five years with justification for such projections.**

2010-11		2011-12		2012-13		2013-14		2014-15	
Enrl	Compl	Enrl	Compl	Enrl	Compl	Enrl	Compl	Enrl	Compl
60	12	75	15	84	20	92	25	102	30

Justification:

From the beginning of the OSH and OSH&E programs, enrollment depended primarily on the non-traditional student, i.e., either the person already employed in a safety and health position but without the degree which would allow for promotions and salary increases, or someone who was planning on a career change into the occupational safety and health field. This is the primary reason that many of the classes were taught in the evenings and at Baton Rouge and Livingston locations. Their participation is still a large part of the enrollment, however, in the 2006-2007 period we began to see students entering the program directly out of high school, and this number has steadily increased from year to year. As our efforts to market the availability to secondary school students bear fruit, we expect to see steady growth in enrollees until it levels off in about ten years. This growth does not take into account possible growth from students who reside outside the region who will want to enroll at Southeastern due to the reputation that our program is attaining.



The chart shown is a simple linear regression auto-generated in Excel on the basis of previous year samples. It is used to produce the projections for future years. Thus projections are based solely on number sequencing which does not account for market dynamics which were discussed above. Thus the numbers shown should be considered to be conservative estimates.

In the Fall of 2010 we started experimenting with internet delivery methods which found a sharp positive response. It is therefore reasonable to expect that by increasing the availability of instruction via internet and requiring less of physical presence on campus, the enrollment should be even better than the listed projections which are based on data from the traditional delivery forms.



**3. Contribution to economic health/development of the state. (Be as specific as possible, including relationship between degree program and Blue Ocean/Louisiana Economic Development initiatives and/or GNO, Inc. targeted industry sectors.)**

Narrative Description:

The responsibilities for workplace safety, health and environment rest squarely on the shoulders of company management. Our degree program provides the professional staff with the knowledge and skills to serve management in meeting these responsibilities. These assets are not provided by other means, i.e., traditional academic programs in management and engineering. It was this need for the education of safety and health professionals that led the executive board of the Greater Baton Rouge Industrial Managers Association (GBRIMA) to approach Southeastern Louisiana University administrative personnel in the early 1990s and request the implementation of a degree program. The creation of the program led to the establishment of the first formal industrial advisory committee on Southeastern’s campus, a concept which has grown until it is now an integral part of the operation of any campus programs, especially those with an applied aspect. GBRIMA (now known as Greater Baton Rouge Industrial Alliance, or GRBIA) is still an active part of our advisory council, as are organizations including, but not limited to, the federal Occupational Safety and Health Administration (OSHA), the Louisiana Department of Environmental Quality (LDEQ), the National Safety Council (NSC), the Safety Council of Louisiana Capitol Area, the American Society of Safety Engineers (ASSE) and the American Industrial Hygiene Association (AIHA).

In the Louisiana Occupational Employment Wage Survey 2008 published by Louisiana Workforce Commission [http://www.laworks.net/Downloads/LMI/OccWageSurvey\\_2008.pdf](http://www.laworks.net/Downloads/LMI/OccWageSurvey_2008.pdf), the average annual salary for the OSH&E related fields including 17-2111 Health and safety engineers, except mining safety engineers and inspectors, 29-9011 Occupational health and safety specialists, and 29-9012 Occupational health and safety technicians in the State of Louisiana in 2008 is \$64,368, \$57,474, and \$45,453, respectively.

**The majority of OSH&E graduates have high-salary jobs. Of the most recent alumni survey on the OSH&E graduates of the last two years, 6 (of 16) graduates earn greater than \$70,000 annual salary (with one of them greater than \$90,000), 6 graduates have their annual salary ranging between \$50,000 and \$70,000, and the other 4 in the range \$30,000 - \$50,000.**

In the Occupational Projections for All Occupations (2008 - 2018) published by Louisiana Workforce Commission [http://www.laworks.net/LaborMarketInfo/LMI\\_OccAllProj.asp?years=20082018](http://www.laworks.net/LaborMarketInfo/LMI_OccAllProj.asp?years=20082018), the estimated number of employment in the OSH&E related fields including 17-2111 Health and safety engineers, except mining safety engineers and inspectors, 29-9011 Occupational health and safety specialists, and 29-9012 Occupational health and safety technicians in the State of Louisiana in 2008 is 1,740. The projected number in 2018 is 1,890. These employment data do not include other pertinent occupations where our OSH&E majors and graduates have been working, including environmental engineers, compliance offices, insurance companies, and non-profitable organizations, etc. As shown in the table, almost all of these occupations require Bachelor’s Degrees as most significant source of education. Our OSH&E program is the only one of its type in the southeastern United States (east of Texas and south of Tennessee); therefore, we have every confidence that we will see a strong and steady increase of the enrollments and completers for the next five years.

An article in <http://ehstoday.com/safety/news/safety-health-graduates-9968> states “As U.S. unemployment has risen to a 25-year high, a new trend study from the University of California San Diego Extension reveals some of the hottest career options for college graduates in this recession. At No. 6 on the list: occupational safety and health”.

**4. Uniqueness or relevance to the region or area. (Support statements with evidence that can be documented.)**

Narrative Description:

Information on OSH&E academic programs maintained by the American Society of Safety Engineers list Southeastern’s OSH&E degree program as the only program of its type in the southeastern United States (east of Texas and south of Tennessee). We have recently undergone review by the accreditation team from the Accreditation Board for Engineering and Technology (ABET) and expect positive results toward full accreditation later in Spring Semester, 2011. If that accreditation is awarded to our program we will be one of only 3 accredited environmental, health and safety degree programs in the United States. Therefore, in addition to our uniqueness resulting from our regional position, we will also possess a level of accreditation which will benefit our students, our community and the university.

- a. Does the university currently offer any other degree program(s) that provide another path to the same career goal(s) (e.g., for teacher preparation: bachelor’s degree in content area followed by alternate certification)? If so:

<Insert Name of Other Existing Degree Program>			
Enrollment			
Completers			

**b. Other public universities in the southern part of the state that offer the degree program.**

2007 – 2008						
	UNO	LSU	SUNO	Southern – BR	Nicholls	UL - Lafayette
<b>Enrollment</b>	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program
<b>Completers</b>	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program

2008 – 2009						
	UNO	LSU	SUNO	Southern – BR	Nicholls	UL - Lafayette
<b>Enrollment</b>	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program
<b>Completers</b>	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program

2009 – 2010						
	UNO	LSU	SUNO	Southern – BR	Nicholls	UL - Lafayette
<b>Enrollment</b>	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program
<b>Completers</b>	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program	No Active Program

**5. Does the university need to maintain this program to support other programs, or to maintain accreditation, or because of (justified, documented) anticipated cost/revenue loss with elimination (e.g., recent major investments, external funding support, tuition, etc).**

All IT & ET majors need to take OSHE 111.

**6. Placement of graduates (positions held, places of employment, enrollment in graduate or baccalaureate study).**

**a. Employment Placements**

2009 – 2010 Graduates		
Name	Position	Employer (include name and location)
Joseph Bejeaux	Quality Systems Specialist	Honeywell Specialty Materials Baton Rouge, LA
Edward Gauthreaux	Industrial Hygienist	Gulf South Safety, contracted to Nalco Chemical Company Garyville, LA
Jeremy Morgan	Safety Tech	Gulf South Safety Consultants Baton Rouge, LA
Charles Anderson	EHS Coordinator	Pinnacle Polymers Garyville, LA
Jeremy Spears	Safety Representative	Total Safety, contracted to Valero Port Arthur Refinery Nederland, TX
Brittany Ard	No contact	
David Barker	No contact	
James Carter Jr.	Safety Coordinator	Deep South Crane and Rigging Baton Rouge, LA
Scott Gautreau	Site Safety Supervisor	Excel Maintenance Services Prairieville, LA
Kimberly Gill	Loss Control Surveyor	US-Reports, Inc. Loveland, CO
Brett Hubbs	Safety Coordinator	Deep South Crane and Rigging Baton Rouge, LA

2008 – 2009 Graduates		
Name	Position	Employer (include name and location)
Doug Friloux	National Safety Manager	POOLCORP Covington, LA

Melody Howes	No contact	
Eric Worthy	No contact	
Jerry Riddle	Safety and Health Manager	La-Z-Boy South Inc. Newton, MS
Quivoia Wells	Technical Safety Specialist	Motiva Enterprises, LLC Norco, LA
Branden Bennett	Safety Coordinator	Kleinpeter Farms Dairy Baton Rouge, LA
Keith Kluger	EHS Specialist 2	Shaw Energy & Chemical Group Houston, TX
Daniel Rice	EHS Manager	Louisiana Scrap Metal Recycling Port Allen, LA
Jake Valenti	Safety Manager	Austin Fire Equipment, contracted to Dow Chemical Prairieville, LA

**b. Graduate School Placements**

2009 – 2010 Graduates			
Name	University	Name of Degree Program	Type of Degree (e.g., MA, MS, PhD)

2008 - 2009 Graduates			
Name	University	Name of Degree Program	Type of Degree (e.g., MA, MS, PhD)
Jerry Riddle	Southeastern Oklahoma State University	Occupational Safety and Health Management	MS

**7. Passage rate of completers on licensure/certification exams or measures.**

Number of Completers	Licensures/Certification Measure	Passage Rate
2009-10:	1 ASP (Associate Safety Professional)	100%
2008-09:	1 ASP (Associate Safety Professional)	100%
2007-08:		

**8. Program quality as reflected by regional or national reputation, faculty qualifications, and the documented achievements of program graduates. (Support statements with references to documented evidence.)**

Brief Narrative Description:

The OSH&E program underwent the ABET accreditation in 2010. The site visit took place in October 2010 and received positive feedback. Two of the OSH&E faculty members hold CSPs (Certified Safety Professionals), one of the most prestigious credentials in the safety field. The program also has two active Student Sections of the national societies, ASSE (American Society of Safety Engineers) and AIHA (American Industrial Hygiene Association). Of note, the ASSE Student Section received \$500 from ASSE for meeting the Annual Minimum Criteria, but narrowly not winning the Outstanding Student Section of the Year Award in 2009-10.

**a. Since 2007, awards/honors/recognitions granted to the program**

Year of Award/Honor/Recognition	Name of Award/Honor/Recognition	Award Sponsor
2010	Award of Excellence for the Student Section of the	ASSE (American society of Safety

	American Society of Safety Engineers (\$500)	Engineers)

**b. Since 2007, student awards/honors/recognitions received from organizations external to the university**

Year of Award/Honor/Recog	Student	Name of Award/Honor/Recognition	Award Sponsor
2009	Roland McFarlane	Greater Baton Rouge Chapter - Don Jones Excellence in Safety Scholarship	ASSE (American Society of Safety Engineers) Foundation
2010	Eric Miller	Greater Baton Rouge Chapter - Don Jones Excellence in Safety Scholarship	ASSE (American Society of Safety Engineers) Foundation
2010	Greg Culberson	Erma Byrd Scholarship (\$5000/semester)	United States Department of Education

**9. Measures of program productivity other than numbers of graduates (grants, publications or other).**

**a. Since 2007, peer-reviewed publications and recordings by faculty who teach in the degree program**

Year of Publication	Faculty Member(s)	Title of Authored Piece	Type of Publication (e.g., journal article, book, book chapter, cd)	Title of Book/Journal/etc.
2011	Lu Yuan	Knee disorders among carpenters in the St. Louis area	Journal article	The Open Occupational Health & Safety Journal
2010	Lu Yuan	Biomechanical risk factors for knee disorders in carpenters	Refereed proceedings	Proceedings of the 54th Annual Meeting of Human Factors and Ergonomics Society
2010	Lu Yuan	Quantitative ergonomics exposure assessment for floor coverers in the greater Boston area	Refereed proceedings	Proceedings of the 54th Annual Meeting of Human Factors and Ergonomics Society
2009	Lu Yuan	Knee disorders among union carpenters	Refereed proceedings	Proceedings of the 17th World Congress on Ergonomics (IEA 2009)
2009	Lu Yuan	Biomechanical evaluation of the air stretcher as an alternative for the carpet knee kicker	Refereed proceedings	Proceedings of the 17th World Congress on Ergonomics (IEA 2009)
2009	Lu Yuan	Examination of occupational knee disorders among carpenters in the St. Louis area	Refereed proceedings	Proceedings of the XXIst Annual International Occupational Ergonomics and Safety Conference 2009
2007	Lu Yuan	Estimation of muscle contraction forces and joint reaction forces at the low back and shoulder during drywall installation	Refereed proceedings	Proceedings of the 51st Annual Meeting of Human Factors and Ergonomics Society
2007	Lu Yuan	A Delphi study to structure a working conference on women's success in science,	Refereed proceedings	Proceedings of the 2007 American Society of Engineering Education Annual

		technology, engineering and mathematics (STEM)		Conference & Exposition
2007	Ephraim Massawe	Environmental, Health and Safety (EHS) Implications of Biobased Floor Strippers	Journal article	Journal of Environmental Health (NEHA)
2009	Ephraim Massawe	Review and Updates of the Ground-Level Ozone Regulatory Framework for the State of Louisiana	Technical report	Report to the State of Louisiana's Department of Environmental Quality
2005-2008	Lawrence Mauerma	Series of articles on ionizing radiations: (1) Ionizing Radiation (2) Measuring and Monitoring Ionizing Radiation (3) Ionizing Radiation Exposures, Doses and Protective Measures	Journal article	The Monitor - Journal and Newsletter of the Industrial Hygiene Practice Specialty of the American Society of Safety Engineers. (Series received "Best of the Best" special recognition, presented at the ASSE Professional Development Conference in La Vegas, 2008)

**b. Since 2007, professional/academic presentations by faculty who teach in the degree program**

Year of Presentation	Faculty Member(s)	Title of Presentation	Presentation Venue
2007	Lu Yuan	Estimation of muscle contraction forces and joint reaction forces at the low back and shoulder during drywall installation	The 51st Annual Meeting of Human Factors and Ergonomics Society, Baltimore, MD
2007	Lu Yuan	Examination of muscle fatigue during a simulated workday of drywall installation	The Sixth International Scientific Conference on Prevention of Work-Related Musculoskeletal Disorders (PREMUS 2007), Boston, MA
2007	Lu Yuan	Evaluation of ergonomic intervention strategies for drywall installation	The 135th Annual Meeting and Exposition of the American Public Health Association, Washington, D.C.
2009	Lu Yuan	The use of Lean production and safety initiatives in construction	IIE (Institutes of Industrial Engineers) Annual Conference and Expo 2009, Miami, FL
2009	Lu Yuan	Examination of occupational knee disorders among carpenters in the St. Louis area	The XX1st Annual International Occupational Ergonomics and Safety Conference 2009, Dallas, TX
2009	Lu Yuan	A software system for computerized work sampling-based methodology	Southeastern CSIT Fall 2009 Seminar Series, Hammond, LA
2010	Lu Yuan	Building a strong and efficient industrial advisory committee for the ABET accreditation	2010 ABET Symposium, Las Vegas, NV
2010	Lu Yuan	Reducing ergonomic injuries for librarians using a participatory approach	City of Baton Rouge Safety Committee Meeting, Baton Rouge, LA
2009	Ephraim Massawe	Reducing Workers Exposure to Toxic Chemicals: The Role of Biobased (Green) Products	The 137th Annual Meeting and Exposition of the American Public Health Association, Pennsylvania, PA
2009	Ephraim Massawe	Ground-level Ozone Pollution and Human Health: What the Public Really Needs to Know	Tulane University's Environmental Health Class, New Orleans, LA
2009	Ephraim Massawe	The Role of Toxics Use Reduction in Reducing Chemical Accidents and Community Exposures to Toxics Chemicals in the U.S.	The Twenty Year Anniversary of the Toxics Use Reduction Institute Symposium, Boston, MA
2009	Ephraim Massawe	Indoor Air Quality: Identification of Environmental Health Problems; Evaluation and Control Measures	Southeastern Graduate Class in Kinesiology and Health Studies, Hammond, LA
2010	Ephraim Massawe	Use of Nanomaterial for Environmental Remediation of Hazardous Waste Sites in	Nairobi, Kenya (February 2010) under the invitation of the United Nations

		Developing Countries: A Potential Approach for the African Countries under the UN Program	
2010	Ephraim Massawe	Toxic Substances Control Act: The Implications of the U.S. EPA Reforms to Public Health Management	American Nursing Association, Washington D.C.

**c. Since 2007, artistic performances or shows by faculty who teach in the degree program**

Year of Perf/Show	Faculty Member	Nature of Perf/Show	Performance/Show Venue	Juried (Yes/No)

**d. Since 2007, external grants received by faculty teaching in the degree program**

Year(s) of Award	Faculty Member	Title of Project	Amount of Award	Granting Agency	Names of Students in Degree Program Funded by Grant
2008	Lu Yuan	Knee Disorders and Occupational Biomechanical Risks - Health Data Analysis	\$7,733	NIOSH (National Institute for Occupational Safety and Health) through UMass Lowell	
2009	Lu Yuan	Knee Disorders and Occupational Biomechanical Risks - Health Data Analysis and Synthesis	\$10,728	NIOSH through UMass Lowell	
2010	Lu Yuan	Reducing Ergonomic Injuries for Librarians Using a Participatory Approach	\$10,000	NIOSH Southwest Center for Occupational and Environmental Health (SWCOEH)	Gregory Culberson

**e. Since 2007, awards/honors/recognitions received by individual faculty teaching in the degree program**

Year of Award/Honor/Recog	Faculty Member	Name of Award/Honor/Recognition	Award Sponsor
2007	Lu Yuan	Travel Grant	Southeastern Louisiana University Center for Faculty Excellence
2007	Lu Yuan	Teaching Enhancement Grant	Southeastern Louisiana University Center for Faculty Excellence
2009	Lu Yuan	Travel Grant	Southeastern Louisiana University Center for Faculty Excellence
2009	Lu Yuan	Teaching Enhancement Grant	Southeastern Louisiana University Center for Faculty Excellence
2009	Lu Yuan	Certificate for University Teaching and Learning on Course Portfolios	Southeastern Louisiana University Center for Faculty Excellence
2009	Lu Yuan	Certificate of Dedication to OSH&E Industrial Advisory Committee	Southeastern Louisiana University College of Science and Technology
2010	Lu Yuan	Travel Grant	Southeastern Louisiana University Center for Faculty Excellence
2010	Lu Yuan	Travel Grant	Southeastern Louisiana University Center for Faculty Excellence
2009	Ephraim Massawe	DEQ Internship Award	Louisiana Department of Environmental Quality

2009	Ephraim Massawe	Certificate of Dedication to OSH&E Industrial Advisory Committee	Southeastern Louisiana University College of Science and Technology
2009	Ephraim Massawe	Professional Development Grant	Southeastern Louisiana University Center of Faculty Excellence
2010	Ephraim Massawe	Certificate for University Teaching and Learning on Course Portfolios	Southeastern Louisiana University Center of Faculty Excellence
2010	Ephraim Massawe	Teaching Enhancement Grant	Southeastern Louisiana University Center of Faculty Excellence
2010	Ephraim Massawe	Travel Grant	Southeastern Louisiana University Center of Faculty Excellence
2010	Ephraim Massawe	Professional Development Grant	Southeastern Louisiana University Center of Faculty Excellence

**f. Since 2007, peer-reviewed publications and recordings by students majoring in the degree program**

Year of Publication	Student Author(s)/Co-author(s)	Title of Authored Work	Type of Publication (e.g., journal article, book, book chapter)	Title of Book/Journal/etc.

**g. Since 2007, professional/academic presentations by students majoring in the degree program**

Year of Presentation	Student Presenter(s)	Title of Presentation	Presentation Venue
2010	David Gatlin	Getting the Lead Out of Louisiana Water Bodies	College of Science and Technology Science Fair

**h. Since 2007, artistic performances or shows by students majoring in the degree program**

Year of Perf/Show	Faculty Member	Nature of Perf/Show	Performance/Show Venue	Juried (Yes/No)

**10. Cultural benefits of the degree program to the local community/region**

Brief Narrative Description:

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**a. Since 2007, cultural outreach/performances/shows conducted in the community/region by faculty and/or students in the degree program**

Year	Title of Outreach Activity/Performance/Show	Venue of Activity (location)	Estimated Size of Audience




**11. The degree program’s contribution to promoting and enhancing the educational and cultural level and the general health and well-being of the university’s service region**

**Brief Narrative Description:**

For the past seven years, the Southeastern Student Section of the American Society of Safety Engineers has partnered with the City of Hammond, and Tangipahoa Parish, to provide a Household Hazardous Material (Haz-Mat) drop-off day twice a year (May and October) for residents of the region. We have served on the planning committee for the event since its inception and provide volunteers on the mornings of the actual hazardous material drop-off at Zemurray Park in Hammond. Both Southeastern and the ASSE have been mentioned specifically in advertising materials promoting the event and in local news reports on its success. Recently it was calculated by Hammond City officials that the efforts have collected more than 100 tons of hazardous materials for safe recycling or disposal and kept them out of municipal landfills.

The Student Section of the ASSE is currently working with the Lake Pontchartrain Basin Foundation and other environmental groups to develop a program to assist Hammond with its stormwater runoff permit from the LDEQ by mapping and characterizing stormwater from the Southeastern campus. Although this project has not been completely developed and executed, it is in progress and provides another example of the impact of our program on the community and region.

Also, the recent disaster of the oil spill in the Gulf is illustrative of what happens when safety, health and environmental principles are not applied or ignored. It is, however, an exception to the generally safe and responsible operation of Louisiana industries of all kinds, particularly when the principles and practices taught in a program such as ours are applied in the workplace. Workplace safety and health not only results in the obvious benefit of the well-being of employees at all levels, but contributes to the profitability of industry in such areas as increased quality of product, operating efficiency, and lower operating costs.

- a. Since 2007, relevant outreach activities promoting and enhancing the educational and cultural level and general health and well-being of the university’s service region (do not repeat anything listed in item 10a).**

Year	Title of Outreach Activity	Venue of Activity (location)	Estimated Size of Audience
2007	OSH&E program exhibition booth at the ASSE Safety 2007 Professional Development Conference & Exposition	Orlando, FL	3000
2007	OSH&E program exhibition booth at the Gulf Coast Safety and Security Conference & Exposition 2007	Baton Rouge, LA	300
2008	OSH&E program exhibition booth at the Gulf Coast Safety and Security Conference & Exposition 2008	Baton Rouge, LA	300
2008	OSH&E program exhibition booth at the ASSE Safety 2008 Professional Development Conference & Exposition	Las Vegas, NV	3000
2009	OSH&E information table at the Livingston Parish Workforce/Education Summit	Denham Springs, LA	150
2010	OSH&E program exhibition booth at the National Safety Council South Louisiana Chapter 59 <sup>th</sup> Annual Safety Award Banquet	New Orleans, LA	200
2010	OSH&E program exhibition booth at the ASSE Region IV Safety and Health Conference 2010	Baton Rouge, LA	500
2010	OSH&E faculty (Ephraim Massawe) participation in the National Safety Council South Louisiana Chapter Safe Communities America-Hammond program	Hammond, LA	20

May '07	Household Haz-Mat Drop-off	Zemurray Park, Hammond	N/A
Oct. '07	Household Haz-Mat Drop-off	Zemurray Park, Hammond	N/A
May '08	Household Haz-Mat Drop-off	Zemurray Park, Hammond	N/A
Oct. '08	Household Haz-Mat Drop-off	Zemurray Park, Hammond (15+ volunteers)	N/A
May '09	Household Haz-Mat Drop-off	Zemurray Park, Hammond (15+ volunteers)	N/A
Oct. '09	Household Haz-Mat Drop-off	Zemurray Park, Hammond (15+ volunteers)	N/A
May '10	Household Haz-Mat Drop-off	Zemurray Park, Hammond (20+ volunteers)	N/A
Oct. '10	Household Haz-Mat Drop-off	Zemurray Park, Hammond (20+ volunteers)	N/A

**12. The degree program’s contribution to the continuing educational enhancement of members of the various professions in the university’s service region (Be as specific as possible)**

Narrative Description:

Through grants from the Louisiana Works (now known as Louisiana Workforce Commission) programs, faculty members have provided safety training for employees and management of Amite Machine & Foundry in Amite, Louisiana (2000-2001), and for the Neal Corporation in Hammond, Louisiana (2003-2004).

The OSH&E faculty members also worked with the Southeastern Division of Extended Studies and the Southeast Louisiana Business Center to provide safety and loss prevention training through a U.S. Department of Labor Grant (2010).

**13. Average ACT and high school GPA of students in degree program**

Year	Mean Composite ACT	Mean High School GPA
2007-2008	18.7	3.144
2008-2009	19.0	2.523
2009-2010	21.3	3.074
2010-2011	20.2	3.245

**14. Can the degree program be consolidated with one or more existing programs?**

Yes     No

a. If yes, which degree program(s)?

Degree Program(s) Title	CIP Code

b. Do you wish to propose a consolidated program?

Yes     No

- If yes, what is the proposed new program?

Proposed New Program Title	Proposed CIP Code

**c. Reasons why the proposed consolidated program would succeed as compared to the current arrangement**

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**d. Tentative curriculum for proposed consolidated program**

Total credit hours in curriculum for proposed consolidated program: _____	
Outline the curriculum ( <i>Course Rubric, Title, Credits</i> ) for the proposed consolidated program, in sequence. Indicate any new courses that will be offered in the new program as electives.	
CORE - -	Concentration/Option: ( <i>Title</i> ) - - <hr/> Concentration/Option: - -

**e. Special requirements**

Indicate any special requirements. If the consolidation involves a graduate degree, indicate if a thesis or dissertation is required and, if not, what is substituted.

**f. Student consolidation issues**

Explain how students currently enrolled in programs involved in the consolidation will be advised/transferred into the new program and how they may benefit from the consolidation of existing programs.

**g. Fiscal impact of proposed consolidation**

Provide a five-year projection of the anticipated fiscal impact or opportunities for reinvestment, with consolidation. (Explain projections, as applicable.)	
Year 1	
Year 2	
Year 3	
Year 4	
Year 5	

**h. Other significantly pertinent information concerning proposed consolidation**

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**i. Anticipated date for full approval and implementation of proposed consolidated program**

Program Terminations as a result of this BoR Review will be on the inventory, effective **May/2011**.

Expected Date (Mo/Yr) for Full Approval and Implementation of the new program: \_\_\_\_\_.

**Note.** It is expected that if a consolidation appeal is accepted by the Board of Regents the new program will be fully approved and in place no later than December 2011. Should this not occur, the institution will have to submit a full proposal for a new academic program (ref: Academic Affairs Policy 2.05).

**15. Statewide Duplication.** In cases where other programs *in the statewide inventory, within the same CIP code and level*, exist, is there compelling evidence to warrant the continuation of the degree program at this institution? Address plans and efforts toward collaboration or sharing resources with other, similar programs in the state or region, new delivery mechanisms, etc.

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**Other Information**

Present any other significantly pertinent information that has not been requested.

The OSHE program has only two faculty and one instructor. Of the two faculty:

Dr. Lu Yuan also teaches an ET-305 course in Ergonomics (required);

Dr. Massawe, besides Industrial Hygiene, he also has a degree in Chemical Engineering and there is a standing plan for him to also help with teaching some ET courses when ET students progress enough to need regular offering of the upper level classes and therefore need more hands. Such potential courses include Thermodynamics, Fluid Mechanics, Project Management.

Independent studies at no-comp offered by OSHE faculty since 2007:

1. Spring 2011 OSHE 242 by Dr. Lu Yuan – 1 student
2. Fall 2010 OSHE 381 by Mr. Lawrence Mauerman – 4 students
3. Spring 2010 OSHE 251 by Dr. Ephraim Massawe – 1 student
4. Spring 2010 OSHE 471 by Mr. Lawrence Mauerman – 1 student
5. Summer 2009 OSHE 341 by Mr. Lawrence Mauerman – 2 students
6. Spring 2009 OSHE 242 by Dr. Lu Yuan – 1 student
7. Spring 2009 OSHE 261 by Mr. Steven Pereira – 1 student
8. Spring 2009 OSHE 381 [281] by Mr. Lawrence Mauerman – 1 student
9. Spring 2009 OSHE 471 [371] by Mr. Lawrence Mauerman – 1 student
10. Fall 2008 OSHE 112 by Dr. Lu Yuan – 1 student
11. Fall 2008 OSHE 251 by Mr. Lawrence Mauerman – 2 students
12. Fall 2008 OSHE 471 [371] by Mr. Lawrence Mauerman – 1 student
13. Summer 2008 OSHE 382 [282] by Mr. Lawrence Mauerman – 1 student
14. Summer 2008 OSHE 112 by Dr. Lu Yuan – 1 student

# Dratt

## ACADEMIC ASSESSMENT PLAN/REPORT COVER SHEET

College:	Science and Technology
Department:	Computer Science and Industrial Technology
Unit:	Occupational Safety, Health, and Environment
Degree:	Occupational Safety, Health, and Environment

When submitting the Academic Assessment Plan/Report please check indicating that faculty have met, reviewed, and endorsed the Assessment Plans/Reports being submitted for this degree program.

Date of Endorsement: \_\_\_\_\_ 3/28/2011 \_\_\_\_\_

Unit Assessment Coordinator Signature: \_\_\_\_\_

*Lu Yuan*

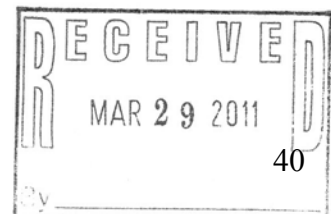
Date of Signature: \_\_\_\_\_ 3/29/11 \_\_\_\_\_

Department Head Signature and Date: \_\_\_\_\_

*Allen* 3/29/11

College Dean Signature and Date: \_\_\_\_\_

*[Signature]* 3/30/11



## Unit Academic Assessment Plan/Report 2010-2012

Date Submitted: **04/01/2011**

<b>1. College:</b>	<b>Science and Technology</b>	<b>2. Department:</b>	<b>Computer Science and Industrial Technology</b>
<b>3. Unit</b>	<b>Occupational Safety, Health, and Environment</b>	<b>4. Degree:</b>	<b>Occupational Safety, Health, and Environment</b>

**5. University Mission:** **The mission of Southeastern Louisiana University is to lead the educational, economic, and cultural development of southeast Louisiana.**

**6. Unit Purpose/Mission Statement:**

The Bachelor of Science degree program in Occupational Safety, Health, and Environment (OSH&E) is designed to provide an academically comprehensive curriculum that prepares graduates with the ability and competency to become highly qualified safety, industrial hygiene, and environmental professionals. The educational objectives of the OSH&E program are to prepare students who:

1. Apply knowledge and principles of mathematics, science, technology, and management in industry, business, or other related areas of employment as occupational safety, health, and environmental professionals;
2. Apply practical-oriented knowledge and skills in safety, health, and environment to anticipate, identify and evaluate hazardous conditions and practices, to develop hazard control designs, methods, procedures and programs, and to implement and manage effective safety, health, and environment programs;
3. Become effective communicators and ethical facilitators within the practice of safety, health, and environment;
4. Continue professional development to address the need of applying principles of safety, health, and environment within a constantly changing and increasingly diverse environment.

**(A) Unit Goal #1** Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to apply mathematical and scientific knowledge in the safety, health, and environment field.

Year 1					Year 2	
(B) Measurable Outcomes	(C) Assessment Method	(D) D/Ind	(E) Who Conducts	(F) When Assessed	(G) Findings	(H) Use of Results
At least 75% of students know how to apply mathematical and statistical knowledge in the safety, health, and environment field (see rubric attached).	Exams, class exercises, assignments, and final project	D	OSHE 121 OSHE 421	Spring 2013 Spring 2013		
At least 75% of students know principles in chemistry, physics,	Exams, homework, and project	D	OSHE 141 OSHE 381	Spring 2012 Fall 2011		

and biology as it pertains to the practice of safety, health, and environment (see rubric attached).						
At least 75% of students know principles in business management as it pertains to the practice of safety, health, and environment (see rubric attached).	Exams, class exercises, assignments, and final project	D	OSHE 121 OSHE 311	Spring 2012 Fall 2011		
<b>(A) Unit Goal #2</b>	Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to anticipate, identify and evaluate safety, health, and environmental hazards, and to develop and implement hazard control methods, programs, and system designs.					
<b>Year 1</b>					<b>Year 2</b>	
<b>(B) Measurable Outcomes</b>	<b>(C) Assessment Method</b>	<b>(D) D/Ind</b>	<b>(E) Who Conducts</b>	<b>(F) When Assessed</b>	<b>(G) Findings</b>	<b>(H) Use of Results</b>
At least 75% of students understand occupational safety, health, and environmental fundamentals (see rubric attached).	Exams, class exercises, assignments, and final project	D	OSHE 111 OSHE 251	Fall 2012 Fall 2012		
At least 75% of students know legal aspects of safety, health, and environmental practices (see rubric attached).	Exams, assignments, and final paper	D	OSHE 112 OSHE 421	Fall 2011 Spring 2012		
At least 75% of students understand the interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body (see rubric attached).	Exams, class exercises, assignments, and final project	D	OSHE 242 OSHE 441	Spring 2012 Fall 2011		
At least 75% of students understand the application of laws, regulations, standards, and codes to safety, health and environmental conditions (see rubric attached).	Exams, assignments, and final paper	D	OSHE 121 OSHE 382	Spring 2013 Spring 2013		
At least 75% of students understand and use principles of fire prevention and protection in the workplace	Exams, assignments, and final paper	D	OSHE 261 OSHE 381	Spring 2013 Fall 2012		

(see rubric attached).						
At least 75% of students know industrial and construction safety throughout the work processes (see rubric attached).	Exams, assignments, and final paper	D	OSHE 111 OSHE 382	Fall 2011 Spring 2012		
At least 75% of students know how to utilize basic laboratory instrumentations associated with safety, health, and environment (see rubric attached).	Exams, class exercises, assignments, and final project	D	OSHE 141 OSHE 341	Spring 2012 Spring 2012		
At least 75% of students know how to anticipate, identify and evaluate hazardous agents, conditions, and practices (see rubric attached).	Exams, assignments, and final paper	D	OSHE 112 OSHE 424	Spring 2013 Fall 2012		
At least 75% of students know fundamental exposure assessment and environmental sampling techniques (see rubric attached).	Exams, class exercises, assignments, and final project	D	OSHE 141 OSHE 441	Spring 2012 Fall 2011		
At least 75% of students know how to develop control designs, methods, procedures, and programs to eliminate or mitigate safety, health, and environmental hazards (see rubric attached).	Exams, class exercises, assignments, and final project	D	OSHE 261 OSHE 381	Spring 2013 Fall 2012		
At least 75% of students know how to conduct accident/incident investigation and analysis (see rubric attached).	Exams, assignments, and final paper	D	OSHE 111 OSHE 421	Fall 2011 Spring 2012		
At least 75% of students know how to implement and manage effective safety, health, and environmental programs (see rubric attached).	Exams, assignments, and final paper	D	OSHE 121 OSHE 323	Spring 2013 Fall 2012		
<b>(A) Unit Goal #3</b>	Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to express thoughts effectively in oral and written communications, and to understand ethical behaviors and professional responsibility.					
<b>Year 1</b>					<b>Year 2</b>	



<b>(B) Measurable Outcomes</b>	<b>(C) Assessment Method</b>	<b>(D) D/Ind</b>	<b>(E) Who Conducts</b>	<b>(F) When Assessed</b>	<b>(G) Findings</b>	<b>(H) Use of Results</b>
At least 75% of students are able to effectively express thoughts in oral and written communications (see rubric attached).	Final project, assignments, and class exercises; Alumni and employer surveys	D Ind	OSHE 242 OSHE 471 LY	Spring 2012 Fall 2011 2012-2013		
At least 75% of students know the techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment (see rubric attached).	Exams, class exercises; Student roundtable discussion.	D Ind	OSHE 112 OSHE 322 OSH&E faculty	Fall 2011 Spring 2012 Fall 2011		
At least 75% of students are able to effectively function as a part of multi-disciplinary team (see rubric attached).	Group project, class exercises; Surveys, student roundtable discussions	D Ind	OSHE 242 OSHE 451 OSH&E faculty	Spring 2013 Summer 13 2012-2013		
<b>(A) Unit Goal #4</b>	Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to broaden education and life-long learning necessary to understand safety, health, and environment issues within a global and social context.					
<b>Year 1</b>					<b>Year 2</b>	
<b>(B) Measurable Outcomes</b>	<b>(C) Assessment Method</b>	<b>(D) D/Ind</b>	<b>(E) Who Conducts</b>	<b>(F) When Assessed</b>	<b>(G) Findings</b>	<b>(H) Use of Results</b>
Students are encouraged to become members of ASSE (American Society of Safety Engineers) and AIHA (American Industrial Hygiene Association) Southeastern Louisiana University Student Section and be actively involved in the events and activities organized by the Student Section. At least 50% of upper-level students are ASSE/AIHA members (see rubric attached).	ASSE meeting and event participation, student roundtable discussion	Ind	OSH&E faculty	2012-2013		
Students are encouraged to continue personal growth and improvement by pursuing the	Exit interview, alumni survey	Ind	OSH&E faculty	2011-2012		

widely recognized certifications including Certified Safety Professional (CSP) and Certified Industrial Hygienist (CIH). As measured on the Southeastern Alumni Survey, at least 50% of the OSH&E graduates will become CSPs and/or CIHs (see rubric attached).						
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# Rubric for Assessing OSH&E Program Outcomes

Objective 1: Apply knowledge and principles of mathematics, science, technology, and management in industry, business, or other related areas of employment as occupational safety, health, and environment professionals.

Expected Outcomes: Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to apply basic mathematical and scientific knowledge in the safety, health, and environment field.

<b>Performance Criteria</b>	<b>Below Expectations 1</b>	<b>Progressing to Criteria 2</b>	<b>Meets Criteria 3</b>	<b>Exceeds Criteria 4</b>	<b>Score<sup>1</sup></b>
1. Students know how to apply basic mathematical and statistical knowledge in the safety, health, and environment field.	Student fails to solve typical OSH&E problems using basic mathematical and statistical knowledge.	Student identifies typical OSH&E problems, but struggles to select proper mathematical and statistical tools needed to solve the problems.	Student correctly identifies typical OSH&E problems and applies basic mathematical and statistical knowledge, but makes minor mistakes during problem solving.	Student clearly identifies typical OSH&E problems and correctly applies basic mathematical and statistical knowledge to solve the problems.	
2. Students know basic principles in chemistry, physics, and biology as it pertains to the practice of safety, health, and environment.	Student is unable to understand basic principles in chemistry, physics, and biology that are applied to the OSH&E field.	Student understands basic principles in chemistry, physics, and biology that are applied to the OSH&E field, but struggles to apply those principles properly to solve specific problems.	Student understands and applies basic principles in chemistry, physics, and biology that are applied to the OSH&E field, but makes minor mistakes and/or demonstrates a lack of clarity during problem solving.	Student clearly and correctly understands and applies basic principles in chemistry, physics, and biology that are applied to the OSH&E field to solve specific problems.	

<p>3. Students know basic principles in business management as it pertains to the practice of safety, health, and environment.</p>	<p>Student is unable to understand basic principles in business management that are applied to the OSH&amp;E field.</p>	<p>Student understands basic principles in business management that are applied to the OSH&amp;E field, but struggles to apply those principles properly to solve specific problems.</p>	<p>Student understands and applies basic principles in business management that are applied to the OSH&amp;E field, but demonstrates a lack of clarity during problem solving.</p>	<p>Student clearly and correctly understands and applies basic principles in business management that are applied to the OSH&amp;E field to solve specific problems.</p>	
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<sup>1</sup>Score is presented as the percentage of samples that meets and/or exceeds criteria. 75% is used as the success rate based on the OSH&E Major Field Assessment plan (Appendix A).

Objective 2: Apply practical-oriented knowledge and skills in safety, health, and environment to anticipate, identify and evaluate hazardous conditions and practices, to develop hazard control designs, methods, procedures and programs, and to implement and manage effective safety and health programs.

Expected Outcomes 2A: Students completing the Baccalaureate degree in OSH&E will demonstrate the understanding of safety, health, and environment knowledge.

<b>Performance Criteria</b>	<b>Below Expectations 1</b>	<b>Progressing to Criteria 2</b>	<b>Meets Criteria 3</b>	<b>Exceeds Criteria 4</b>	<b>Score<sup>1</sup></b>
2A1. Students understand occupational safety, health, and environment fundamentals.	Student fails to understand occupational safety, health, and environment fundamentals.	Student understands the basics of occupational safety, health, and environment, but struggles to differentiate between concepts.	Student understands the basics of occupational safety, health, and environment and how they are interrelated, but demonstrates a lack of clarity.	Student clearly and correctly understands occupational safety, health, and environment fundamentals.	
2A2. Students know legal aspects of safety, health, and environmental practices.	Student fails to understand the legal framework within the OSH&E field.	Student understands the legal framework within the OSH&E field, but struggles to differentiate between agency/organization responsibilities.	Student understands the legal framework within the OSH&E field and how different agencies/organizations are interrelated, but demonstrates a lack of clarity.	Student clearly and correctly understands the legal framework within the OSH&E field.	
2A3. Students understand the interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body.	Student fails to understand physical, chemical, biological, and ergonomic agents, factors, and/or stressors.	Student understands the impacts of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body, but struggles to differentiate between substances.	Student understands the interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body, but demonstrates a lack of clarity.	Student clearly and correctly understands the impacts and interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body.	

<p>2A4. Students understand the application of laws, regulations, standards, and codes to safety, health and environmental conditions.</p>	<p>Student fails to understand the application of laws, regulations, standards, and codes to safety, health and environmental conditions.</p>	<p>Student understands how to apply laws, regulations, standards, and codes to safety, health and environmental conditions, but struggles to differentiate between substances.</p>	<p>Student understands the application of laws, regulations, standards, and codes to safety, health and environmental conditions, but demonstrates a lack of clarity.</p>	<p>Student clearly understands and correctly applies laws, regulations, standards, and codes to safety, health and environmental conditions.</p>	
<p>2A5. Students understand and use basic principles of fire prevention and protection in the workplace.</p>	<p>Student fails to understand basic principles of fire prevention and protection in the workplace.</p>	<p>Student understands basic principles of fire prevention and protection in the workplace, but struggles to use the principles properly.</p>	<p>Student understands and uses basic principles of fire prevention and protection in the workplace, but demonstrates a lack of clarity.</p>	<p>Student clearly understands and correctly uses basic principles of fire prevention and protection in the workplace.</p>	
<p>2A6. Students know industrial and construction safety throughout the work processes.</p>	<p>Student fails to understand industrial and construction safety throughout the work processes.</p>	<p>Student understands industrial and construction safety throughout the work processes, but struggles to differentiate between concepts and substances.</p>	<p>Student understands industrial and construction safety throughout the work processes, but demonstrates a lack of clarity.</p>	<p>Student clearly and correctly understands industrial and construction safety throughout the work processes.</p>	

Expected Outcomes 2B: Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to obtain the necessary skills to anticipate, identify and evaluate safety, health, and environment hazards, and to develop and implement hazard control methods, programs, and system designs.

<b>Performance Criteria</b>	<b>Below Expectations 1</b>	<b>Progressing to Criteria 2</b>	<b>Meets Criteria 3</b>	<b>Exceeds Criteria 4</b>	<b>Score<sup>1</sup></b>
2B1. Students know how to utilize basic laboratory instrumentations associated with safety, health, and environment.	Student fails to understand basic laboratory techniques associated with industrial hygiene and basic sciences.	Student understands the application of basic laboratory techniques associated with industrial hygiene and basic sciences, but struggles to differentiate between concepts and methods.	Student understands the application of basic laboratory techniques associated with industrial hygiene and basic sciences, but demonstrates a lack of clarity.	Student clearly understands and correctly applies basic laboratory techniques associated with industrial hygiene and basic sciences.	
2B2. Students know how to anticipate, identify and evaluate hazardous agents, conditions, and practices.	Student fails to understand how to anticipate, identify and evaluate hazardous agents, conditions, and practices.	Student understands how to anticipate, identify and evaluate hazardous agents, conditions, and practices, but struggles to differentiate between methods.	Student understands different methods to anticipate, identify and evaluate hazardous agents, conditions, and practices, but demonstrates a lack of clarity.	Student clearly understands and correctly applies different methods to anticipate, identify and evaluate hazardous agents, conditions.	
2B3. Students know fundamental exposure assessment and environmental sampling techniques.	Student fails to understand fundamental exposure assessment techniques.	Student understands the basics of exposure assessment techniques, but struggles to differentiate between methods.	Student understands different fundamental exposure assessment techniques, but demonstrates a lack of clarity.	Student clearly understands fundamental exposure assessment techniques.	

<p>2B4. Students know how to develop control designs, methods, procedures, and programs to eliminate or mitigate safety, health, and environmental hazards.</p>	<p>Student fails to understand how to develop hazard control designs, methods, procedures, and programs.</p>	<p>Student understands how to develop hazard control designs, methods, procedures, and programs, but struggles to differentiate between concepts and methods.</p>	<p>Student understands different means to develop hazard control designs, methods, procedures, and programs, but demonstrates a lack of clarity.</p>	<p>Student clearly understands and correctly develops hazard control designs, methods, procedures, and programs.</p>	
<p>2B5. Students know how to conduct accident/incident investigation and analysis.</p>	<p>Student fails to understand how to conduct accident/incident investigation and analysis.</p>	<p>Student understands how to conduct accident/incident investigation and analysis, but struggles to differentiate between theories, models and methods.</p>	<p>Student understands different theories, models and methods to conduct accident/incident investigation and analysis, but demonstrates a lack of clarity.</p>	<p>Student clearly understands and correctly conducts accident/incident investigation and analysis.</p>	
<p>2B6. Students know how to implement and manage effective safety, health, and environment programs.</p>	<p>Student fails to understand how to implement and manage effective safety, health, and environment programs.</p>	<p>Student understands how to implement and manage effective safety, health, and environment programs, but struggles to differentiate between elements.</p>	<p>Student understands different elements to implement and manage effective safety, health, and environment programs, but demonstrates a lack of clarity.</p>	<p>Student clearly understands and correctly implements and manages effective safety, health, and environment programs.</p>	



Objective 3: Become effective communicators and ethical facilitators within the practice of safety, health, and environment.

Expected Outcomes: Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to express thoughts effectively in oral and written communications, and to understand ethical behaviors and professional responsibility.

<b>Performance Criteria</b>	<b>Below Expectations 1</b>	<b>Progressing to Criteria 2</b>	<b>Meets Criteria 3</b>	<b>Exceeds Criteria 4</b>	<b>Score<sup>1</sup></b>
1. Students are able to effectively express thoughts in oral and written communications.	Student fails to effectively express thoughts in oral and written communications.	Student expresses thoughts in oral and written communications, but struggles to demonstrate the effectiveness.	Student generally effectively expresses thoughts in oral and written communications, but demonstrates a lack of consistency.	Student consistently and effectively expresses thoughts in oral and written communications.	
2. Students know the techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment.	Student fails to understand the techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment.	Student understands the techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment, but struggles to differentiate between concepts and methods.	Student understands different techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment, but demonstrates a lack of clarity.	Student clearly understands the techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment.	
3. Students are able to effectively function as a part of multi-disciplinary team.	Student fails to effectively function as a part of multi-disciplinary team.	Student functions as a part of multi-disciplinary team, but struggles to demonstrate the effectiveness.	Student generally effectively functions as a part of multi-disciplinary team, but demonstrates a lack of consistency.	Student consistently and effectively functions as a part of multi-disciplinary team.	

Objective 4: Continue professional development to address the need of applying principles of safety, health, and environment within a constantly changing and increasingly diverse environment.

Expected Outcomes: Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to broaden education and life-long learning necessary to understand safety, health, and environment issues within a global and social context.

<b>Performance Criteria</b>	<b>Below Expectations 1</b>	<b>Progressing to Criteria 2</b>	<b>Meets Criteria 3</b>	<b>Exceeds Criteria 4</b>	<b>Score<sup>1</sup></b>
1. Students are encouraged to become members of ASSE (American Society of Safety Engineers) and AIHA (American Industrial Hygiene Association) Southeastern Louisiana University Student Section and be actively involved in the events and activities organized by the Student Section. At least 50% of upper-level students are ASSE/AIHA members.	Student shows no interest in becoming a member of ASSE Southeastern Louisiana University Student Section and is not involved in the events and activities organized by the Student Section. Lower than 50% of upper-level students are ASSE members.	Student is interested in becoming a member of ASSE Southeastern Louisiana University Student Section and is involved in the events and activities organized by the Student Section, but does not become a member eventually. Close to 50% of upper-level students are ASSE members.	Student becomes a member of ASSE Southeastern Louisiana University Student Section and is generally actively involved in the events and activities organized by the Student Section. At least 50% of upper-level students are ASSE members.	Student becomes a member of ASSE Southeastern Louisiana University Student Section and is consistently actively involved in the events and activities organized by the Student Section. 75% of upper-level students are ASSE members.	
2. Students are encouraged to continue personal growth and improvement by pursuing the widely recognized certifications including Certified Safety Professional (CSP) and Certified Industrial Hygienist (CIH). As measured on the Southeastern Alumni Survey, at least 50% of the OSH&E graduates will become CSPs and/or CIHs.	Student shows no interest in continuing personal growth and improvement by pursuing the widely recognized certifications including CSP and CIH. As measured on the Southeastern Alumni Survey, lower than 50% of the OSH&E graduates will become CSPs.	Student is interested in continuing personal growth and improvement by pursuing the widely recognized certifications including CSP and CIH. As measured on the Southeastern Alumni Survey, close to 50% of the OSH&E graduates will become CSPs.	Student takes early steps to continue personal growth and improvement by pursuing the widely recognized certifications including CSP and CIH. As measured on the Southeastern Alumni Survey, 50% of the OSH&E graduates will become CSPs.	Student consistently continues personal growth and improvement by pursuing the widely recognized certifications including CSP and CIH. As measured on the Southeastern Alumni Survey, 75% of the OSH&E graduates will become CSPs.	

## **Appendix A**

### **Major Field Assessment Plan**

### **Occupational Safety, Health, and Environment (OSH&E)**

The Bachelor of Science degree program in Occupational Safety, Health, and Environment (OSH&E) is designed to provide an academically comprehensive curriculum that prepares graduates with the ability and competency to become highly qualified safety, industrial hygiene, and environmental professionals.

The educational objectives of the OSH&E program are to prepare students who:

1. Apply knowledge and principles of mathematics, science, technology, and management in industry, business, or other related areas of employment as occupational safety, health, and environmental professionals.

#### Expected Outcomes

Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to apply mathematical and scientific knowledge in the safety, health, and environment field.

#### Assessment

In the selected relevant courses (OSHE 111, 112, 121, 141, 231, 242, 261, 311, 381, 382, 421, 424, 441, 452, and 471), the exams and assignments should be designed to reflect the course objectives. Students are able to score at least 75% on math, statistics, and science related problems in the exams and assignments.

2. Apply practical-oriented knowledge and skills in safety, health, and environment to anticipate, identify and evaluate hazardous conditions and practices, to develop hazard control designs, methods, procedures and programs, and to implement and manage effective safety, health, and environment programs.

#### Expected Outcomes

Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to understand safety, health, and environment knowledge, to anticipate, identify and evaluate safety, health, and environmental hazards, and to develop and implement hazard control methods, programs, and system designs.

#### Assessment

- In the majority of courses, students are able to score at least 75% on technical problems regarding safety, health, and environment in the exams. Approximately 70% of the grade for each of those courses is based on the exam performance.
- In the selected relevant courses (OSHE 111, 112, 121, 141, 242, 341, 381, 282, 424, 441, and 452), students are able to anticipate, identify, evaluate, and control hazards by scoring at least 75% on a research project in a simulated industrial work environment.

Approximately 30% of the grade for each of those courses is based on the quality of the research project.

3. Become effective communicators and ethical facilitators within the practice of safety, health, and environment.

#### Expected Outcomes

Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to express thoughts effectively in oral and written communications, and to understand ethical behaviors and professional responsibility.

#### Assessment

- In the majority of courses, students are required to either write a technical research paper, or make an oral presentation of project, or both. Students are able to scoring at least 75% on those requirements. Approximately 30% of the grade for each of those courses is based on the quality of the research paper and/or presentation.
  - The exams in selected courses (OSHE 111, 112, 121, 322, 382, 421, and 424) include questions regarding codes of professional ethics. Students are expected to score at least 75% on those questions. For those who have opposite opinions on the ethical codes, individual counseling or discussion will be issued.
4. Continue professional development to address the need of applying principles of safety, health, and environment within a constantly changing and increasingly diverse environment.

#### Expected Outcomes

Students completing the Baccalaureate degree in OSH&E will demonstrate the ability to broaden education and life-long learning necessary to understand safety, health, and environment issues within a global and social context.

#### Assessment

- Students are encouraged to become members of ASSE (American Society of Safety Engineers) and AIHA (American Industrial Hygiene Association) Southeastern Louisiana University Student Section and be actively involved in the events and activities organized by the Student Section. At least 50% of upper-level students are ASSE/AIHA members.
- Students are encouraged to continue personal growth and improvement by pursuing the widely recognized certifications including Certified Safety Professional (CSP) and Certified Industrial Hygienist (CIH). As measured on the Southeastern Alumni Survey, at least 50% of the OSH&E graduates will become CSPs and/or CIHs.

## OSHE Courses (in Red Color) that Satisfy Competencies for OSH&E BS Program

<b>Mathematics, Science and Statistics</b>	OSHE Courses
Graduates know how to apply mathematical and statistical knowledge in the safety, health, and environment field.	<b>111</b> , 112, <b>121</b> , <b>141</b> , 231, <b>242</b> , 251, <b>261</b> , 311, 322, 323, 341, <b>381</b> , 382, <b>421</b> , <b>424</b> , <b>441</b> , 451, 452, 471
Graduates know principles in chemistry, physics, and biology as it pertains to the practice of safety, health, and environment.	<b>111</b> , <b>112</b> , 121, <b>141</b> , 231, <b>242</b> , 251, <b>261</b> , 311, 322, 323, 341, <b>381</b> , <b>382</b> , 421, <b>424</b> , <b>441</b> , 451, <b>452</b> , 471
Graduates know principles in business management as it pertains to the practice of safety, health, and environment.	<b>111</b> , <b>112</b> , <b>121</b> , 141, <b>231</b> , 242, 251, 261, <b>311</b> , 322, 323, 341, 381, 382, <b>421</b> , 424, 441, 451, <b>452</b> , <b>471</b>
<b>Communications and Social Sciences</b>	
Graduates are able to effectively express thoughts in oral and written communications.	<b>111</b> , <b>112</b> , <b>121</b> , <b>141</b> , <b>231</b> , <b>242</b> , <b>251</b> , 261, 311, <b>322</b> , 323, 341, <b>381</b> , <b>382</b> , <b>421</b> , <b>424</b> , 441, 451, 452, <b>471</b>
Graduates know the techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment.	<b>111</b> , <b>112</b> , <b>121</b> , 141, 231, 242, 251, 261, 311, <b>322</b> , 323, 341, 381, <b>382</b> , <b>421</b> , <b>424</b> , 441, 451, 452, 471
Graduates are able to effectively function as a part of multi-disciplinary team.	<b>111</b> , <b>112</b> , 121, 141, 231, <b>242</b> , 251, 261, 311, 322, 323, 341, 381, <b>382</b> , <b>421</b> , <b>424</b> , 441, <b>451</b> , 452, <b>471</b>
<b>Safety, Health, and Environment Knowledge</b>	
Graduates understand occupational safety, health, and environment fundamentals.	<b>111</b> , <b>112</b> , <b>121</b> , <b>141</b> , <b>231</b> , <b>242</b> , <b>251</b> , <b>261</b> , 311, 322, 323, 341, 381, 382, 421, 424, 441, 451, 452, 471
Graduates know legal aspects of safety, health, and environmental practices.	<b>111</b> , <b>112</b> , <b>121</b> , <b>141</b> , <b>231</b> , <b>242</b> , <b>251</b> , <b>261</b> , 311, 322, 323, 341, <b>381</b> , <b>382</b> , <b>421</b> , <b>424</b> , 441, 451, 452, 471
Graduates understand the interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body.	111, 112, 121, <b>141</b> , 231, <b>242</b> , 251, 261, 311, 322, 323, <b>341</b> ,

	381, 382, 421, 424, <b>441</b> , 451, 452, 471
Graduates understand the application of laws, regulations, standards, and codes to safety, health and environmental conditions.	<b>111</b> , 112, <b>121</b> , 141, <b>231</b> , 242, <b>251</b> , 261, 311, 322, 323, 341, <b>381</b> , <b>382</b> , 421, 424, 441, <b>451</b> , 452, 471
Graduates understand and use principles of fire prevention and protection in the workplace.	<b>111</b> , 112, 121, 141, 231, 242, 251, <b>261</b> , 311, 322, 323, 341, <b>381</b> , 382, 421, 424, 441, 451, 452, 471
Graduates know industrial and construction safety throughout the work processes.	<b>111</b> , 112, 121, 141, 231, 242, 251, 261, 311, 322, 323, 341, 381, <b>382</b> , 421, <b>424</b> , 441, 451, 452, 471
<b>Safety, Health, and Environment Practical Skills</b>	
Students know how to utilize basic laboratory instrumentations associated with safety, health, and environment.	111, 112, 121, <b>141</b> , 231, 242, 251, 261, 311, 322, 323, <b>341</b> , 381, 382, 421, 424, <b>441</b> , 451, 452, 471
Graduates know how to anticipate, identify and evaluate hazardous agents, conditions, and practices.	<b>111</b> , <b>112</b> , <b>121</b> , <b>141</b> , 231, <b>242</b> , 251, 261, 311, 322, 323, <b>341</b> , <b>381</b> , <b>382</b> , 421, <b>424</b> , <b>441</b> , 451, 452, 471
Students know fundamental exposure assessment and environmental sampling techniques.	<b>111</b> , <b>112</b> , 121, <b>141</b> , 231, <b>242</b> , 251, 261, 311, 322, 323, <b>341</b> , <b>381</b> , <b>382</b> , 421, <b>424</b> , <b>441</b> , <b>451</b> , <b>452</b> , 471
Students know how to develop control designs, methods, procedures, and programs to eliminate or mitigate safety, health, and environmental hazards.	111, <b>112</b> , 121, <b>141</b> , 231, <b>242</b> , 251, <b>261</b> , 311, 322, 323, <b>341</b> , <b>381</b> , 382, 421, <b>424</b> , 441, <b>451</b> , <b>452</b> , 471
Graduates know how to conduct accident/incident investigation and analysis.	<b>111</b> , 112, <b>121</b> , 141, 231, 242, 251, 261, 311, 322, 323, 341, 381, 382, <b>421</b> , 424, 441, 451, 452, 471
Graduates know how to implement and manage effective safety, health, and environment programs.	<b>111</b> , 112, <b>121</b> , 141, 231, 242, 251, 261, <b>311</b> , <b>322</b> , <b>323</b> , 341, 381, 382, <b>421</b> , <b>424</b> , 441, 451, 452, <b>471</b>

## Assessment of OSH&E Program Outcomes (Performance Criteria) for 2011-2012

Performance Criteria	Courses	Sources of Assessment	Assessment Method(s)	Assessment Coordinator <sup>1</sup>	Time of Data Collection
1. 2. Students know basic principles in chemistry, physics, and biology as it pertains to the practice of safety, health, and environment.	111, 112, 141, 242, 261, 381, 382, 424, 441, 452	141	Three Exams	EM	Spring 2012
			Class Exercise		
			Homework		
			Project		
		381	Three Exams	LM	Fall 2011
			Assignment		
Final Project					
1. 3. Students know basic principles in business management as it pertains to the practice of safety, health, and environment.	111, 112, 121, 231, 311, 421, 452, 471	121	Three Exams	LM	Spring 2012
			Assignment		
			Final Paper		
		311	Three Exams	EM	Fall 2011
			Class Exercise		
			Homework		
			Project		
2. A2. Students know legal aspects of safety, health, and environmental practices.	111, 112, 121, 141, 231, 242, 251, 261, 381, 382, 421, 424	112	Three Exams	LY	Fall 2011
			Ten Assignments		
			Final Paper		
		421	Three Exams	LM	Spring 2012
			Assignment		
			Final Project		
2. A3. Students understand the interactions of physical, chemical, biological, and ergonomic agents, factors, and/or stressors on the human body.	141, 242, 341, 441	242	Two Exams	LY	Spring 2012
			Three Homework		
			Assignment		
			Group Project		
		441	Three Exams	LM	Fall 2011

			Homework		
			Project		
2. A6. Students know industrial and construction safety throughout the work processes.	111, 382, 424	111	Three Exams	LM	Fall 2011
			Assignment		
			Final Paper		
		382	Three Exams	LY	Spring 2012
			Assignment		
			Final Paper		
2. B1. Students know how to utilize basic laboratory instrumentations associated with safety, health, and environment.	141, 341, 441	141	Three Exams	EM	Spring 2012
			Class Exercise		
			Homework		
			Project		
		341	Three Exams	EM	Spring 2012
			Class Exercise		
			Homework		
			Project		
2. B3. Students know fundamental exposure assessment and environmental sampling techniques.	111, 112, 141, 242, 341, 381, 382, 424, 441, 451, 452	141	Three Exams	EM	Spring 2012
			Class Exercise		
			Homework		
			Project		
		441	Three Exams	LM	Fall 2011
			Class Exercise		
			Homework		
			Project		
2. B5. Students know how to conduct accident/incident investigation and analysis.	111, 121, 421	111	Three Exams	LM	Fall 2011
			Assignment		
			Final Paper		
		421	Three Exams	LM	Spring 2012
			Assignment		



			Project		
3. 1. Students are able to effectively express thoughts in oral and written communications.	111, 112, 121, 141, 231, 242, 251, 322, 381, 382, 421, 424, 441	242	Two Exams	LY	Spring 2012
			Three Homework		
			Assignment		
			Group Project		
		471	Three Exams	LM	Fall 2011
			Assignment		
Project					
3. 2. Students know the techniques, skills, and modern behavioral tools necessary for the practice of safety, health, and environment.	111, 112, 121, 322, 382, 421, 424	112	Three Exams	LY	Fall 2011
			Ten Assignments		
			Final Paper		
		322	Three Exams	LM	Spring 2012
			Assignment		
			Final Project		
4. 2. Students are encouraged to continue personal growth and improvement by pursuing the widely recognized certifications including, but not limited to, Certified Safety Professional (CSP) and Certified Industrial Hygienist (CIH). As measured on the Southeastern Alumni Survey, 50% of the OSH&E graduates will become CSPs.		All Graduates	Exit Interview	All Faculty	Spring 2012
			Alumni Survey	LY	Fall 2012*

<sup>1</sup>Presented here are faculty's initials.

**OSH&E Program Outcomes - Indirect Assessment  
Schedule, 2008-2009 to 2012-2013**

	Fall 2008	Spring 2009	Fall 2009	Spring 2010	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013
Industrial Advisory Committee meeting	X	X	X	X	X	X	X	X	X	X
Industrial Advisory Committee Questionnaire	X						X			
Exit Interview	X	X	X	X	X	X	X	X	X	X
Exit Survey	X	X	X	X	X	X	X	X	X	X
Alumni Survey			X						X	
Employer Survey				X						X
Current Student Discussion					X		X		X	

## Recent Internship Opportunities for OSH&E Majors

- BASF Geismar - Summer 2011 EHS Intern
- Barriere Construction - Summer 2011 Safety Intern
- Marathon Petroleum - Summer 2011 Safety Intern

## Recent Employment Opportunities for OSH&E Majors

- Performance Contractors - EHS Auditor Position
- ARSC Sulphur Louisiana - OSH&E Position
- Chevron - Offshore Production Operator
- PEC Premier - Training Development Specialist
- Austin Commercial - OSH&E Professionals

## Recent Employment by OSH&E Majors

- GBRIA - Director of Safety and Workforce Development
- Murphy Exploration and Production - HSE Field Specialist

## Appendix G



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## Important Deadlines for Accreditation

The ABET accreditation process — which begins with an institution's formal submission of a [Request for Evaluation](#) — takes approximately a year and a half. However, before submitting, institutions must have in place processes for assessing outcomes, which may take several years to develop.

### Up to Four Years Prior to the Request for Evaluation

Before requesting an evaluation, the institution must:

- refine the assessment of program educational objectives and student outcomes
- collect assessment data
- collect student work examples

Here's a [basic explanation of the components of the assessment process](#).

### Two Years Prior to the Request for Evaluation

The ABET Accreditation Commissions propose changes to the **Accreditation Criteria**, post for comment, and submit for Board approval.

- [Read the current Accreditation Criteria for Applied Science, Computing, Engineering, and Technology.](#)

### One Year Prior to the Request for Evaluation

#### August

ABET posts the [Self-Study Questionnaires: Templates for the Self Study](#).

#### August through December

Institutions begin the preparation of the **Self-Study Report** and the collection of student work samples.

#### December

ABET sends reminders to institutions with existing accredited programs to submit **Requests for Evaluations**.

### The Request for Evaluation Begins the Formal Accreditation Process

#### January, Year 1

Institutions formally request an accreditation review using the [Request for Evaluation tool](#). The deadline to submit is January 31. Institutions outside of the U.S. must also submit a [Request for Approval](#).

#### January through July, Year 1

Institutions prepares and submits the **Self-Study Report** by July 1.

#### May - July, Year 1

Chairs for the **Evaluation Teams** are selected; campus visit dates are assigned.

#### May - August, Year 1

### Events

[ABET Symposium](#)  
April 14 - 16, 2011

[Institute for the Development of Excellence in Assessment Leadership \(IDEAL\)](#)  
August 1-5, 2011

[Faculty Workshop on Sustainable Assessment Processes](#)  
October 26, 2011

2011 ABET Annual Conference  
October 26-28, 2011

[ABET Member Society Calendar](#)  
[...more](#)

### Latest News

[ABET Board of Directors Elects New Leadership](#)

[2010 Accreditation Yearbook Now Available for Purchase](#)

[PEV Refresher Training Now Available](#)

[ABET Executive Director Milligan Selected for Engineering Education Excellence Award](#)

[Dr. Ashley Ater Kranov Joins ABET as Managing Director of Professional Services](#)

[Accreditation Criteria and Self-Study Questionnaires for the 2011 - 2012 Review Cycle Now Available](#)

[Congratulations to ABET's Distinguished Volunteers](#)  
[...more](#)

[Contribute to your profession and make a difference in higher education: Become an ABET Program Evaluator.](#)

Get the latest in your inbox: [Sign up for ABET E-NEWS.](#)

ABET Member Societies assign **Program Evaluators** to evaluation teams.

#### September - December, Year 1

Campus visits take place. The ABET evaluation team presents findings orally at the end of the visit. Institutions have seven days to report errors of fact. The evaluation team submits preliminary findings and recommendations in the form of a **draft statement**

#### December - February, Year 2

The **draft statement** is edited and sent to the institution. Institutions respond to the draft statement within 30 days.

#### February - April, Year 2

Due process; the institution responds to the draft statement.

#### March - May, Year 2

The **Draft Statement** is revised and edited to produce the **Final Statement**.

#### July, Year 2

During the annual Summer Commission Meeting, the Commissioners review the **Final Statements** and decide upon the accreditation actions.

#### August, Year 2

ABET notifies institutions of the **final accreditation action**.

#### October, Year 2

The list of accredited programs is posted to the **ABET Accredited Program Search**.

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Page last modified April 5, 2010

## Appendix H

Date: December 16, 2010  
To: College of Science and Technology Curriculum Committee  
From: OSH&E Program Curriculum Committee  
Topic: OSH&E Curriculum Request for Change Proposals

The OSH&E curriculum request for change proposals include:

1. Change the title of OSHE 111 from *Introduction to Occupational Safety and Health* to *Introduction to Occupational Safety, Health, and Environment*
2. Add a new required course OSHE 452 *Pollution Fundamentals and Control Technologies*
3. Add a new professional elective OSHE 491 *Special Topics*
4. OSHE 120-hour mandate
  - 1) Reduce Southeastern 101 to 2 hours
  - 2) Eliminate IT 242 from third year, second semester
  - 3) Move ECON 201 from third year, first semester to third year, second semester
  - 4) Eliminate OSHE 471 from fourth year, first semester
  - 5) Add OSHE 452 to fourth year, first semester
  - 6) Change the credit hours of Professional Elective in fourth year, first semester from 3 to 2-4, and add a footnote "Students not required to take Southeastern 101 are required to take 4 credit hours of professional electives."



Date: 12/16/2010

# Request for Change In Existing Course/Catalog Entry

**Form Instructions:**

Please complete this form and print on **YELLOW** paper. Please note that form fields expand to accommodate your needs. Print on the front and back of sheet if form expands to 2 pages. Forward to the appropriate persons for their Approval/Denial in the order indicated below. Once Approval is received from the Graduate Council, make **sixteen (16) copies of the signed form** and forward the original with copies to the Ex-Officio.

Submitted by College of: Science and Technology Department Offering Course: Computer Science & Industrial Technology  
 Course Prefix: OSHE Course Number: 111 Credit Hours: 3  
 Catalog Year: 2010-2011 Affected Catalog Page Numbers: 434

**Type of Change(s) Proposed**

Present Title: <b>OSHE 111. Introduction to Occupational Safety and Health</b>	Proposed Title: <b>OSHE 111. Introduction to Occupational Safety, Health, and Environment</b>
Present Course Description/Catalog Entry: <b>111. Introduction to Occupational Safety and Health. Credit 3 hours. This course introduces general safety and health concepts. Major topics include: occupational safety and health terms, historical developments, program concepts and terms, legislative overview, including worker's compensation law, problem identification, hazard recognition, evaluation and control concepts, and an introduction to measurement and evaluation.</b>	Proposed Course Description/Catalog Entry: <b>111. Introduction to Occupational Safety, Health, and Environment. Credit 3 hours. This course introduces general safety, health, and environment concepts. Major topics include: occupational safety, health, and environment terms, historical developments, program concepts and terms, legislative overview, including worker's compensation law, problem identification, hazard recognition, evaluation and control concepts, and an introduction to measurement and evaluation.</b>
Present Prerequisites: <b>No</b>	Proposed Prerequisites: <b>No</b>

Change in Lecture/Lab Ratio: \_\_\_\_\_ to: \_\_\_\_\_

What has prompted this proposal?  
**Program accreditation requires that we enhance the content coverage on the environmental aspect of the program. This change has been recommended by the OSH&E Advisory Committee as well.**

List other departments/colleges that could be affected by the proposed changes:  
**No**

Have these departments/colleges been notified of the proposed change?  Yes  No  Not Applicable

\*\*ATTACH COPY OF PAGE IN CURRENT CATALOG THAT CONTAINS THE SECTION TO BE CHANGED WITH CLEAR INDICATIONS ON HOW THE SECTION IS TO BE CHANGED\*\*

**Approval/Denial of Change - Secure Signatures in following order**

<b>1.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, Dept. Curriculum Committee:	Date:
<b>2.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Department Head:	Date:
<b>3.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Secretary, University Curriculum Council:	Date:
<b>4.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, College Curriculum Committee:	Date:
<b>5.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	College/School Dean:	Date:
<b>6.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Chair, Teacher Education Council:	Date:
<b>7.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Dean of Education:	Date:
<b>8.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Chair, Graduate Council:	Date:
<b>9.</b>	<b>Original &amp; 16 Copies</b> <input type="checkbox"/> Received	Ex-Officio:	Date:
<b>10.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, University Curriculum Council:	Date:



<b>11.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Provost:	Date:
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<b>Reason for Denial:</b>

# Request for New Course

**Form Instructions:**

Please complete this form and print on **PINK** paper. Please note that form fields will expand to accommodate your needs. Print on the front and back of sheet if form expands to 2 pages. Forward to the appropriate persons for their Approval/Denial in the order indicated below. Once Approval is received from the Graduate Council, make **sixteen (16) copies of the signed form** and forward the original with copies to the Ex-Officio.

Submitted by College of: <b>College of Science and Technology</b>		Date: <b>12/16/2010</b>				
Department offering course: <b>Computer Science and Industrial Technology</b>		Proposed CIP code (HEGIS):				
Proposed course prefix, course number, course title, and catalog description as it will appear in the catalog: <b>OSHE 452 Pollution Fundamentals and Control Technologies. Credit 3 hours. Prerequisite: OSHE 251. This course explores the mechanisms of air, water and soil pollution and the steps to eliminate or minimize impacts on the ecology and human health and safety. The course is also designed to explore the existing pollution prevention and control technologies and the evaluation of their performance.</b>						
Page numbers affected in the current catalog: <b>436</b>	Course to be offered: <input checked="" type="checkbox"/> Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer		Frequency of course offering: <b>Once a year</b>			
Why is this course needed? <b>Additional content required for OSHE majors in accreditable OSH&amp;E programs.</b>		What enrollment may be reasonably anticipated? <b>25 Per Course Offering</b>				
List other departments/colleges that could be affected by this new course: <b>None</b>		Have these departments/colleges been notified of the proposed course? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable				
Additional Costs						
Personnel: \$	Facilities: \$	Equipment: \$	Supplies: \$	Travel: \$	Library Resources: \$	Total: \$

Complete the requirements for submitting Request for New Course as follows:	
<p>Course Outline: This course explores the mechanisms of air, water and soil pollution and the steps to eliminate or minimize impacts on the ecology and human health and safety. The course is also designed to explore the existing pollution prevention and control technologies and the evaluation of their performance. Major topics include:</p> <ul style="list-style-type: none"> <li>• Sources of air, water and soil pollutants; and their health, ecological and safety concerns</li> <li>• Air pollution control technologies e.g. cyclones, precipitators, electrostatic filters, etc.</li> <li>• Water pollution control technologies e.g. biological treatment systems</li> <li>• Soil pollution control technologies – e.g. excavation and treatment</li> <li>• Pollution prevention and cleaner production methods</li> <li>• Performance of pollution control technologies e.g. use of modeling plumes and sampling and analysis</li> <li>• Current methods of ground-level ozone pollution control methods</li> </ul>	
<p>Course Objectives:</p> <ul style="list-style-type: none"> <li>• Describe the biosphere and its components e.g. hydrological cycle</li> <li>• Explain different categories and sources of air, water and soil pollution and analyze chemical and physical processes that transform or transport pollutants in the environment</li> <li>• Evaluate the impacts of air, water and soil pollution on human health and welfare (e.g. buildings and aesthetics), living organisms and the ecosystem</li> <li>• Classify the technologies for the treatment of drinking water; and the control of air, water and soil pollution</li> <li>• Select the correct pollution control technologies for specific industrial applications to meet state and federal regulatory and standard requirements</li> <li>• Evaluate the operation of various pollution control technologies for their effectiveness</li> </ul>	
Evaluation Method:	<b>3 Exams: Exam # 1 = 15%; Exam # 2: 15%; Final Exam = 30%</b>

**Class Exercises, homework assignments and weekly tests: 20%**  
**Case study analysis reports/Term Paper: 20%**

Teaching Strategies (optional):

Bibliography: **Harrison, R. M. (2005) Pollution: Causes, Effects and Control (4th Edition), Royal Society of Chemistry. ISBN 978-0-85404-621-8**  
**Dara, S.S. (2008) A Textbook of Environmental Chemistry and Pollution Control. S. Chand & Company Ltd. ISBN 8121908833**  
**Pierce, J.J.; Weiner, R.F.; and Vesilind, P.A. (1998) Environmental Pollution and Control. ISBN: 978-0-7506-9899-3**  
**Hill, K.M. (1997) Understanding Environmental Pollution. 3<sup>rd</sup> Edition. ISBN: 978-0-5215-2726-2**

**Approval/Denial of New Course - Secure Signatures in following order**

<b>1.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, Dept. Curriculum Committee:	Date:
<b>2.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Department Head:	Date:
<b>3.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Secretary, University Curriculum Council:	Date:
<b>4.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, College Curriculum Committee:	Date:
<b>5.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	College/School Dean:	Date:
<b>6.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	(if applicable) Chair, Teacher Education Council:	Date:
<b>7.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	(if applicable) Dean of Education:	Date:
<b>8.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	(if applicable) Chair, Graduate Council:	Date:
<b>9.</b>	<b>Original &amp; 16 Copies</b> <input type="checkbox"/> Received	Ex-Officio:	Date:
<b>10.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, University Curriculum Council:	Date:
<b>11.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Provost:	Date:

**Reason for Denial:**




Approval/Denial of New Course - Secure Signatures in following order			
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1.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, Dept. Curriculum Committee:	Date:
2.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Department Head:	Date:
3.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Secretary, University Curriculum Council:	Date:
4.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, College Curriculum Committee:	Date:
5.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	College/School Dean:	Date:
6.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Chair, Teacher Education Council:	Date:
7.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Dean of Education:	Date:
8.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Chair, Graduate Council:	Date:
9.	<b>Original &amp; 16 Copies</b> <input type="checkbox"/> Received	Ex-Officio:	Date:
10.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, University Curriculum Council:	Date:
11.	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Provost:	Date:

<b>Reason for Denial:</b>



Date: 12/16/2010

# Request for Change In Existing Course/Catalog Entry

**Form Instructions:**

Please complete this form and print on **YELLOW** paper. Please note that form fields expand to accommodate your needs. Print on the front and back of sheet if form expands to 2 pages. Forward to the appropriate persons for their Approval/Denial in the order indicated below. Once Approval is received from the Graduate Council, make **sixteen (16) copies of the signed form** and forward the original with copies to the Ex-Officio.

Submitted by College of: Science and Technology Department Offering Course: Computer Science & Industrial Technology  
 Course Prefix: \_\_\_\_\_ Course Number: \_\_\_\_\_ Credit Hours: \_\_\_\_\_  
 Catalog Year: 2010-2011 Affected Catalog Page Numbers: 304-305

**Type of Change(s) Proposed**

Present Title: <b>N/A</b>	Proposed Title: <b>N/A</b>
Present Course Description/Catalog Entry: <b>Curriculum in Occupational Safety, Health, and Environment See attached.</b>	Proposed Course Description/Catalog Entry: <b>Curriculum in Occupational Safety, Health, and Environment See attached.</b>  <b>1) Reduce Southeastern 101 to 2 hours</b>  <b>2) Eliminate IT 242 from third year, second semester</b>  <b>3) Move ECON 201 from third year, first semester to third year, second semester</b>  <b>4) Eliminate OSHE 471 from fourth year, first semester</b>  <b>5) Add OSHE 452 to fourth year, first semester</b>  <b>6) Change the credit hours of Professional Elective in fourth year first semester from 3 to 2-4, and add a footnote "Students not required to take Southeastern 101 are required to take 4 credit hours of professional electives."</b>
Present Prerequisites: <b>N/A</b>	Proposed Prerequisites: <b>N/A</b>

Change in Lecture/Lab Ratio: \_\_\_\_\_ to: \_\_\_\_\_

What has prompted this proposal?  
**a) Change SE 101 from 3 credit hours to 2 credit hours to reflect the recently approved change in the course.**  
**b) Reduce curriculum to 120 credit hours.**  
**c) Program accreditability requires enhancements in the environmental content of the curriculum.**

List other departments/colleges that could be affected by the proposed changes:  
**No**

Have these departments/colleges been notified of the proposed change?  Yes  No  Not Applicable

\*\*ATTACH COPY OF PAGE IN CURRENT CATALOG THAT CONTAINS THE SECTION TO BE CHANGED WITH CLEAR INDICATIONS ON HOW THE SECTION IS TO BE CHANGED\*\*

**Approval/Denial of Change - Secure Signatures in following order**

<b>1.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, Dept. Curriculum Committee:	Date:
<b>2.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Department Head:	Date:
<b>3.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Secretary, University Curriculum Council:	Date:
<b>4.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, College Curriculum Committee:	Date:
<b>5.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	College/School Dean:	Date:

<b>6.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Chair, Teacher Education Council:	Date:
<b>7.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Dean of Education:	Date:
<b>8.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	<i>(if applicable)</i> Chair, Graduate Council:	Date:
<b>9.</b>	<b>Original &amp; 16 Copies</b> <input type="checkbox"/> Received	Ex-Officio:	Date:
<b>10.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Chair, University Curriculum Council:	Date:
<b>11.</b>	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	Provost:	Date:

<b>Reason for Denial:</b>

**CURRICULUM IN OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENT  
LEADING TO THE DEGREE OF BACHELOR OF SCIENCE**

(AS IN THE 2010-2011 CATALOG)

**FIRST YEAR**

FIRST SEMESTER		SECOND SEMESTER	
English 101.....	3	English 102 .....	3
Mathematics 161 <sup>1</sup> .....	3	Mathematics 162 .....	3
†OSHE 111 .....	3	Computer Science 173 .....	3
†OSHE 112 .....	3	†OSHE 121 .....	3
General Biology 151 .....	3	†OSHE 141 .....	3
Biology Lab 152.....	1		
Southeastern 101 .....	0-3		
	16-19		15

**SECOND YEAR**

Chemistry 101 .....	3	Physics 191 .....	3
Chemistry Lab 103.....	1	Physics Lab 193 .....	1
Mathematics 241 .....	3	Communication 211 .....	3
Psychology 101 .....	3	†OSHE 231 .....	3
†OSHE 251 .....	3	†OSHE 242 .....	3
		†OSHE 261 .....	3
	13		16

**THIRD YEAR**

Chemistry 102 .....	3	Chemistry 261 .....	3
Chemistry Lab 104.....	1	History 101 or 102 or 201 or 202.....	3
Economics 201 .....	3	†Industrial Technology 242 .....	3
English 230 or 231 or 232 .....	3	English 322 .....	3
Zoology 241 .....	4	†OSHE 341 .....	3
†OSHE 381 .....	3		
	17		15

**FOURTH YEAR**

†OSHE 424 .....	3	†OSHE 382 .....	3
†OSHE 471 .....	3	†OSHE 421 .....	3
Management 351 .....	3	†Industrial Technology 391 or 492.....	3
Arts <sup>2</sup> .....	3	†Professional Elective <sup>3</sup> .....	3
Professional Elective <sup>3</sup> .....	3	†Professional Elective <sup>3</sup> .....	3
	15		15

Total semester hours required ..... 122-125

Southeastern 101 is not required of transfer or readmitted Southeastern students with 30 hours or more.

<sup>1</sup> Students with an ACT Math score of 20 or lower will take Math 155 (5 credit hours) in place of Math 161, which will increase 2 credit hours the total number of hours required for the degree.

<sup>2</sup> Select one course in Art, Dance, Music or Theater.

<sup>3</sup> Professional electives should be selected in consultation with advisors.

†A "C" (2.0 minimum adjusted) must be earned in all majors and professional electives.



**CURRICULUM IN OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENT  
LEADING TO THE DEGREE OF BACHELOR OF SCIENCE**

(AS PROPOSED FOR THE 2011-2012 CATALOG)

**FIRST YEAR**

FIRST SEMESTER		SECOND SEMESTER	
English 101.....	3	English 102 .....	3
Mathematics 161 <sup>1</sup> .....	3	Mathematics 162 .....	3
†OSHE 111 .....	3	Computer Science 173 .....	3
†OSHE 112 .....	3	†OSHE 121 .....	3
General Biology 151 .....	3	†OSHE 141 .....	3
Biology Lab 152.....	1		
<b>Southeastern 101 .....</b>	<b>2</b>		
	<hr/>		<hr/>
	18		15

**SECOND YEAR**

Chemistry 101 .....	3	Physics 191 .....	3
Chemistry Lab 103.....	1	Physics Lab 193 .....	1
Mathematics 241 .....	3	Communication 211 .....	3
Psychology101 .....	3	†OSHE 231 .....	3
†OSHE 251 .....	3	†OSHE 242 .....	3
		†OSHE 261 .....	3
	<hr/>		<hr/>
	13		16

**THIRD YEAR**

Chemistry 102 .....	3	Chemistry 261 .....	3
Chemistry Lab 104.....	1	History 101 or 102 or 201 or 202.....	3
English 230 or 231 or 232 .....	3	<b>Economics 201 .....</b>	<b>3</b>
Zoology 241 .....	4	English 322 .....	3
†OSHE 381 .....	3	†OSHE 341 .....	3
	<hr/>		<hr/>
	14		15

**FOURTH YEAR**

†OSHE 424 .....	3	†OSHE 382.....	3
† <b>OSHE 452 .....</b>	<b>3</b>	†OSHE 421 .....	3
Management 351 .....	3	†Industrial Technology 391 or 492.....	3
Arts <sup>2</sup> .....	3	†Professional Elective <sup>3</sup> .....	3
<b>Professional Elective<sup>3,4</sup> .....</b>	<b>2</b>	†Professional Elective <sup>3</sup> .....	3
	<hr/>		<hr/>
	14		15

Total semester hours required ..... **120**

Southeastern 101 is not required of transfer or readmitted Southeastern students with 30 hours or more.

<sup>1</sup> Students with an ACT Math score of 20 or lower will take Math 155 (5 credit hours) in place of Math 161.

<sup>2</sup> Select one course in Art, Dance, Music or Theater.

<sup>3</sup> Professional electives should be selected in consultation with advisors.

<sup>4</sup> **Students not required to take Southeastern 101 are required to take 4 credit hours of professional electives.**

†A "C" (2.0 minimum adjusted) must be earned in all majors and professional electives.