Program: Master of Science in Occupational Safety & Health

Faculty input into the Assessment Process:

- Dr. Wayne D. Jones – Wrote course assessment profiles and program evaluation.

Date Filed: 24 August 2010

Number of Students Assessed: 347 (Course evaluations= 261; Online survey=55; General survey=6; All MS in OSH graduates=25.

Program Goals & Objectives:

Program Goal

The goal of the department of occupational safety and health is to provide graduates with the knowledge, skills, situational learning experiences, instruction and assessment that will prepare them for successful careers in the field of occupational safety and health.

Program Objectives

The objectives were developed by the American Society of Safety Engineers (ASSE) and the American Board of Engineering Technology (ABET) and will be used in the accreditation process of the safety degree program starting 2011. The Occupational Safety and Health Department will utilize these nationally developed outcomes and modify as necessary in future program development. In addition, personalized objectives unique to the SOSU Occupational Safety & Health Department were created to address the individual needs of corporate and governmental employers of Southeastern graduates.
A student completing the M.S. degree in Occupational Safety & Health shall be able to:

1. Demonstrate an advanced ability to analyze and interpret data by understanding fundamental mathematical concepts and to apply those concepts to practical situations in industry. Specifically, Southeastern graduates will be able to formulate and compile safety data and statistics necessary for Job Safety Analysis, Industrial and Insurance Hazard Assessments, and Fault Tree Analysis programs in insurance and industry.

A. Assessment methods

- Number of students participating in the assessment: 347
- How were students selected to participate in the assessment? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What is the make-up of the sample? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What work was evaluated? Class exams, presentations, reports, and group projects in courses pertinent to the objective were studied. In addition, all graduating seniors were required to take, and satisfactorily complete, a senior exam that included questions regarding statistical presentation and analysis were included.
- How was work evaluated? By individual professors and by the department chair.
- What data resulted from the assessment? Individual exam scores, project group scores, and presentation scores.

B. Results of the assessments

- Individual courses within the program reported average letter grades of sufficient strength to enable professors to determine that successful students understood the principles of statistical analysis and advanced math functions. Classes in Advanced Safety Program Management; Legal Liability and Workers Compensation; HAZMAT II; Construction Safety II; Indoor Air Quality; and Philosophy of Safety Management were successfully completed by 100% of the students who attempted them. The courses included group presentations, individual presentations, and exams which included statistical analysis and interpretation.

- Job safety analysis, fault-tree analysis, legal issues and liability, and industrial and insurance hazard assessment were covered in detail in the MS courses provided.

- SFTY 5143 and SFTY 5163 courses provide multiple opportunities for students to become immersed in the practical applications of various
concepts involving legal liability and the utilization of construction safety standards. In my SFTY 5143 course, weekly assignments in the required text call for students to answer specific questions regarding legal liability in modern general industry, construction, and mining safety. Each of the questions address very specific legal liability concepts in these fields, building upon concepts initially presented in the undergraduate version of the course (SFTY 4173). Once that course is successfully completed, students proceed to my SFTY 5163 course, where weekly assignments require them to (1) select actual accident case studies from credible sources, and (2) cross-reference standard violations from these case studies with the construction safety standards contained in the required class text. Students in the course have provided very positive feedback, and generally high final scores on both of the above assignments. Minor modifications were made (regarding assignment instructions and completion) to each prior to the semesters listed here, however, these modifications did not seem to have any significant effect on student performance. Additionally, significant changes to the course syllabus were also made, in order to gain certification for online instruction (per Online Learning Council requirements). (Nichols)

• SFTY 5143-Legal Liability and Worker’s Compensation in Safety and Health

FALL, 2009 MEAN GRADE: 92%
SPRING, 2009 MEAN GRADE: 88%

Rationale for Difference:
Currently unknown. There was one difference between the instructional methodologies employed between the two semesters. In an effort to enrich the overall delivery of the course (and to meet OLC requirements), a Discussion Board feature was incorporated into this course beginning with the Spring Semester of 2009. The minor difference in scores between these two semesters may be attributable to the incorporation of the Discussion Board requirement. Additional data from future semesters will need to be gathered in order to more properly assess the difference. This analysis will be reported in the next assessment. (Nichols).

• SFTY 5163-Construction Safety II

SPRING, 2008 MEAN GRADE: 92%
SUMMER, 2009 MEAN GRADE: 88%

Rationale for Difference:
Currently unknown. There was one difference between the instructional methodologies employed between the two semesters. In an effort to enrich the overall delivery of the course (and to meet upcoming SREB and
OLC guidelines), a Discussion Board feature was incorporated into this course beginning with the Spring Semester of 2009. The minor difference in scores between these two semesters may be attributable to the incorporation of the Discussion Board requirement. Additional data from future semesters will need to be gathered in order to more properly assess the difference. This analysis will be reported in the next assessment. (Nichols).

- SFTY 5214.w1 – This master’s course utilized a virtual laboratory and a weekend face to face session along with the traditional on-line teaching methods. While there is no data comparison for this course feedback from the students in the class has led to an overall revamping of the class. This class will be taught again in Spring 2010. Changes will be made in numbers and nature of assignments. Laboratory sessions will be grouped by topic and reports will cover all labs on a single topic rather than the submittal of reports for individual labs. Topics covered will be shifted to emphasize control methods more than evaluation methods. This courses objectives will still be aligned with AIHA’s Fundamentals of Industrial Hygiene.

<table>
<thead>
<tr>
<th>Course</th>
<th>Lectures</th>
<th>Grade</th>
<th>Mid</th>
<th>Assigments</th>
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<tr>
<td>SFTY 5214.w1</td>
<td>15</td>
<td>90.4</td>
<td>6</td>
<td>Laboratory write ups, exams, lab practical, discussion board</td>
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<tr>
<td>Industrial Hygiene II</td>
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<td>SFTY 5233.w1</td>
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<tr>
<td>Advanced Ergonomics</td>
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C. Analysis and interpretation

- Graduates of the department of occupational safety & health are capable of interpretation of statistical and mathematical concepts and are able to present and defend their findings. They are capable presenting Fault Tree Analysis, insurance analysis and claims adjustment and mitigation, and
Job Safety Analysis as exhibited by their presentation in relevant MS courses. They are further capable of presenting and defending insurance statistics and able to understand and present insurance statistical methods upon successful completion of the prescribed course of study.

- The class average scores illustrated in the final grade totals are not indicative of semester-to-semester student performance as these courses have only been offered one semester. No historical data is available as the program is less than one year old.

2. Anticipate, identify, and evaluate hazardous safety and health conditions and practices through use of JSA, FTA, ISO9000, and OSHA specs programs.

A. Assessment methods

- Number of students participating in the assessment: 347
- How were students selected to participate in the assessment? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What is the make-up of the sample? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What work was evaluated? Class exams, presentations, reports, and group projects in courses pertinent to the objective were studied. In addition, all graduating seniors were required to take, and satisfactorily complete, a senior exam that included questions regarding statistical presentation and analysis were included.
- How was work evaluated? By individual professors and by the department chair.
- What data resulted from the assessment? Individual exam scores, project group scores, and presentation scores.

B. Results of the assessments

- Individual courses within the program reported average letter grades of sufficient strength to enable professors to determine that successful students understood the principles of statistical analysis and advanced math functions. Classes in Advanced Safety Program Management; Legal Liability and Workers Compensation; HAZMAT II; Construction Safety II; Indoor Air Quality; and Philosophy of Safety Management were successfully completed by 100% of the students who attempted them. The courses included group presentations, individual presentations, and exams which included statistical analysis and interpretation.
• Job safety analysis, fault-tree analysis, legal issues and liability, and industrial and insurance hazard assessment were covered in detail in the MS courses provided.

• SFTY- 5223 TOXICOLOGY.
  An advanced study of poisons and toxic substances found in industry and the workplace where workers may be exposed. The course looks at the history, routes of entry, and mechanisms of toxicity in the body. The terminology, units of exposure, and symptoms of exposure are studied. The Spring 2010 course had 34 students completing with a mean grade average of 3.56. This was an online course that required weekly readings and assignments utilizing the web with a research paper covering a topic approved by the professor. (Bradshaw)

• SFTY- 5263 INDOOR AIR QUALITY.
  An in depth look at the hazards and causes of indoor air pollution and the effects it can have on human health, property values, sales, and litigation. The curriculum includes methods of recognition, evaluation, and controls of the various aspects which, after implementing, will lead to better indoor air quality for human occupants. The Summer 2010 class had 28 students with a mean grade average of 3.04. Case studies were utilized using real concerns giving students practical experience. Research of selected topics for discussions were also required with emphasis on style and communication skills. (Bradshaw)

SFTY 5244 – HazMat II
Covers the Hazardous Waste Operations and Emergency Response (HAZWOPER) responsibilities in meeting the laws, rules, and procedures set forth by OSHA in 1970. This curriculum covers the HAZWOPER training by providing the information necessary to those individuals involved with hazardous materials to be able to respond effectively to any emergency. The Fall 2009 class had 36 students with a mean grade average of 3.56. After completing the 40 hour training manual a two day weekend lab was held to allow hands on training via practical live exercises in emergency response. A research paper on hazardous materials was also required of students.

• SFTY 5143 and SFTY 5163 courses provide multiple opportunities for students to become immersed in the practical applications of various concepts involving legal liability and the utilization of construction safety standards. In my SFTY 5143 course, weekly assignments in the required text call for students to answer specific questions regarding legal liability in modern general industry, construction, and mining safety. Each of the questions address very specific legal liability concepts in these fields, building upon concepts initially presented in the undergraduate version of the course (SFTY 4173). Once that course is successfully completed,
students proceed to my SFTY 5163 course, where weekly assignments require them to (1) select actual accident case studies from credible sources, and (2) cross-reference standard violations from these case studies with the construction safety standards contained in the required class text. Initial students in the course have provided very positive feedback, and generally high final scores on both of the above assignments. Modifications will be made to each prior to the next course offerings, in order to further clarify my requirements for students as to what constitutes successful assignment completion. Additional semesters of instruction are necessary in order to complete further analyses.

(Nichols)

• SFTY 5214- 90.4, 90.5 – This class was completely revamped for the Spring 2010 semester based on input from the Fall 2009. This include separation of quantitative and chapter assignments and a revision of the lab writing assignments. The changes to the course do not seem to have effect the overall performance of the students.

• The topic anticipation, identification, and evaluation hazardous safety and health conditions and practices through use of JSA, OSHA specs programs is addressed in-depth when Dr. Nichols teaches SFTY 5143: Legal Liability and Worker’s Compensation in Safety and Health. In SFTY 5143, students are assigned a project in which they must build a case in order to defend their “company” against a fraudulent worker’s compensation claim. The goal of the assignment (based on an actual worker’s compensation case involving ergonomically-related injuries) is to get the claim denied by the worker’s compensation “judge/hearing officer” (Dr. Nichols). Students are provided with complete job descriptions, worker’s compensation forms, job safety analyses, worker’s compensation claim forms, (which must be completed correctly) and medical information for the two employees in question. Furthermore, students are instructed that they have informed their immediate supervisor that they “have all of the evidence necessary to obtain a denial of the worker’s compensation claim.” It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their “case” to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high).
These topics are addressed in-depth when Dr. Nichols teaches SFTY 5163: Construction Safety II, through the assignment of a Site Specific Safety Plan exercise. In this exercise, students are provided with a fictitious construction job, and then asked to build a Site Specific Safety plan that could be utilized on the jobsite for the project in question (if it were an actual construction project). Students are provided with guidelines, outlines and project parameters that are devised by Dr. Nichols. Furthermore, students are instructed to complete the project utilizing CAOOSHA standards, which are some of the most demanding state standards in the nation. Areas that students are asked to address include (but are not limited to) HAZMAT for construction, job safety analyses, fall protection, program management and site security. It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their Site Specific Safety Plan to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high).

C. Analysis and interpretation

- Graduates of the department of occupational safety & health are capable of analysis of hazardous materials and unsafe conditions and are able to present and defend their findings. They are capable presenting Fault Tree Analysis, ISO9000, and Job Safety Analysis as exhibited by their presentations and examinations in MS classes.

- They are capable of presenting Fault Tree Analysis, insurance analysis and claims adjustment and mitigation, and Job Safety Analysis as exhibited by their presentation in relevant MS courses. They are further capable of anticipating, identifying, and evaluating hazardous safety and health conditions and practices through use of JSA, FTA, ISO9000, and OSHA specs programs.

- The class average scores illustrated in the final grade totals are not indicative of semester-to-semester student performance as these courses have only been offered one semester. No historical data is available as the program is less than one year old.
3. **Develop safety and health hazard control designs, methods, procedures, and programs including homeland security and emergency program management. Southeastern students should be able to complete FEMA program development coursework and apply it to real-world situations.**

A. **Assessment methods**

- Number of students participating in the assessment: 347
- How were students selected to participate in the assessment? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What is the make-up of the sample? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What work was evaluated? Class exams, presentations, reports, and group projects in courses pertinent to the objective were studied. In addition, all graduating seniors were required to take, and satisfactorily complete, a senior exam that included questions regarding statistical presentation and analysis were included.
- How was work evaluated? By individual professors and by the department chair.
- What data resulted from the assessment? Individual exam scores, project group scores, and presentation scores.

B. **Results of the assessments**

- Individual courses within the program reported average letter grades of sufficient strength to enable professors to determine that successful students understood the principles of statistical analysis and advanced math functions. Classes in Advanced Safety Program Management; Legal Liability and Workers Compensation; HAZMAT II; Construction Safety II; Indoor Air Quality; and Philosophy of Safety Management were successfully completed by 100% of the students who attempted them. The courses included group presentations, individual presentations, and exams which included statistical analysis and interpretation.

- Job safety analysis, fault-tree analysis, legal issues and liability, and industrial and insurance hazard assessment were covered in detail in the MS courses provided.

- The topics of are addressed in SFTY 5143: Legal Liability in Safety and Health course. Students are assigned the task of assembling and presenting necessary evidence in a fictitious worker’s compensation case, in which two female employees claim to have sustained similar injuries during a production day. The case is setup so that students must “prove” that the employees in question are not accurately representing the facts of
the case to the worker's compensation "judge" (a role executed by myself). Students are graded based upon (1) the quality of the completion of required worker's compensation paperwork, and (2) the quality and type of evidence generated by each student to support their case, in its final presentation. Each student solely determines the specific type of evidence they choose produce. Through this exercise, students are presented with an opportunity to manifest oral and written communication skills in the analysis and presentation of occupational safety and health issues while simultaneously examining ergonomic and systems safety issues and concepts. Initial students in the course have provided very positive feedback, and generally high final scores on the assignment. Modifications will be made to the assignment prior to the next course offering, in order to ensure that the assignment is as realistic as possible. Additional semesters of instruction are necessary in order to complete further analyses. (Nichols)

- SFTY 5143 and SFTY 5163 courses provide multiple opportunities for students to become immersed in the practical applications of various concepts involving legal liability and the utilization of construction safety standards. In my SFTY 5143 course, weekly assignments in the required text call for students to answer specific questions regarding legal liability in modern general industry, construction, and mining safety. Each of the questions address very specific legal liability concepts in these fields, building upon concepts initially presented in the undergraduate version of the course (SFTY 4173). Once that course is successfully completed, students proceed to my SFTY 5163 course, where weekly assignments require them to (1) select actual accident case studies from credible sources, and (2) cross-reference standard violations from these case studies with the construction safety standards contained in the required class text. Initial students in the course have provided very positive feedback, and generally high final scores on both of the above assignments. Modifications will be made to each prior to the next course offerings, in order to further clarify my requirements for students as to what constitutes successful assignment completion. Additional semesters of instruction are necessary in order to complete further analyses. (Nichols)

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An in depth look at the hazards and causes of indoor air pollution and the effects it can have on human health, property values, sales, and litigation. The curriculum includes methods of recognition, evaluation, and controls of the various aspects which, after implementing, will lead to better indoor air quality for human occupants. The Summer 2010 class had 28 students with a mean grade average of 3.04. Case studies were utilized using real concerns giving students practical experience. Research of select topics for discussion were also required with emphasis on style and communication skills. (Bradshaw)

• SFTY 5244 – HazMat II
Covers the Hazardous Waste Operations and Emergency Response (HAZWOPER) responsibilities in meeting the laws, rules, and procedures set fort by OSHA in 1970. This curriculum covers the HAZWOPER training by providing the information necessary to those individuals involved with hazardous materials to be able to respond effectively to any emergency. The Fall 2009 class had 36 students with a mean grade average of 3.56. After completing the 40 hour training manual a two day weekend lab was held to allow hands on training via practical live exercises in emergency response. A research paper on hazardous materials was also required of students.

• SFTY 5214- 90.4, 90.5 – This class was completely revamped for the Spring 2010 semester based on input from the Fall 2009. This include separation of quantitative and chapter assignments and a revision of the lab writing assignments. The changes to the course do not seem to have effect the overall performance of the students.

• The topic develop safety and health hazard control designs, methods, procedures, and programs including homeland security and emergency program management is addressed in-depth when Dr. Nichols teaches SFTY 5143: Legal Liability and Worker's Compensation in Safety and Health. In SFTY 5143, students are assigned a project in which they must build a case in order to defend their “company” against a fraudulent worker's compensation claim. The goal of the assignment (based on an actual worker’s compensation case involving ergonomically-related injuries) is to get the claim denied by the worker’s compensation “judge/hearing officer” (Dr. Nichols). Students are provided with complete job descriptions, worker’s compensation forms, job safety analyses, worker’s compensation claim forms, (which must be completed correctly) and medical information for the two employees in question. Furthermore, students are instructed that they have informed their
immediate supervisor that they “have all of the evidence necessary to obtain a denial of the worker’s compensation claim.” It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their “case” to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high).

These topics are addressed in-depth when Dr. Nichols teaches SFTY 5163: Construction Safety II, through the assignment of a Site Specific Safety Plan exercise. In this exercise, students are provided with a fictitious construction job, and then asked to build a Site Specific Safety plan that could be utilized on the jobsite for the project in question (if it were an actual construction project). Students are provided with guidelines, outlines and project parameters that are devised by Dr. Nichols. Furthermore, students are instructed to complete the project utilizing CALOSHA standards, which are some of the most demanding state standards in the nation. Areas that students are asked to address include (but are not limited to) HAZMAT for construction, job safety analyses, fall protection, program management and site security. It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their Site Specific Safety Plan to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high).

C. Analysis and interpretation

- Graduates of the department of occupational safety & health are capable of interpretation of real world situation and concepts and are able to present and defend their findings. They are capable presenting Fault Tree Analysis, insurance analysis and claims adjustment and mitigation, and Job Safety Analysis as exhibited by their presentation in relevant MS courses. They are further capable of presenting and defending insurance statistics and able to understand and present insurance statistical methods upon successful completion of the prescribed course of study.
4. Evaluate and utilize appropriate technology and library resources in occupational safety & health situations and training opportunities through extensive use of SOSU occupational safety & health computer lab programs and OSHA and ASSE training seminars.

A. Assessment methods

- Number of students participating in the assessment: 347
- How were students selected to participate in the assessment? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What is the make-up of the sample? All students enrolled in occupational safety MS classes during the fall, 2009 – summer, 2010 academic period plus general online survey and graduate surveys.
- What work was evaluated? Class presentations, reports, and group projects in courses pertinent to the objective were studied which required use of the departmental student computer lab.
- How was work evaluated? By individual professors and by the department chair.
- What data resulted from the assessment? Individual and group project and presentation scores.

B. Results of the assessments

- Individual courses within the program reported average letter grades of sufficient strength to enable professors to determine that successful students understood the usage of the occupational safety student computer lab and all OSHA and ASSE online programs.

- All MS courses are online allowing students the full use of SOSU and J.J. Keller online libraries and data banks. In addition, all online MS students were able to make full use of federal and state occupational safety data bases the OSHA, FEMA, NIOSH, EPA, DEQ, DOT, and NTSB websites. Students were required to complete papers and online presentations demonstrating competent use of the federal and state data banks and websites to search for statues, examples, and demonstrations of applicable standards and laws.

- The topic evaluate and utilize appropriate technology and library resources in occupational safety & health situations and training opportunities through extensive use of SOSU occupational safety & health computer lab programs and OSHA and ASSE training seminars is also addressed in depth in both SFTY 5143 and SFTY 5163. In SFTY 5143, students are asked to answer questions covering each chapter at the book, most averaging approximately 30-35 per assignment. Students are asked
to submit page numbers along with their answers, in order to confirm that
the answers provided by students (via Blackboard). Scores on these
exercises were generally in the high ranges, and student participation was
always 95% of more (due to the fact that these were required exercises for
the course, and the point value on the exercises was generally so high).

In SFTY 5163, this topic is also addressed in depth by asking students to
discover approximately 3 (or more) accident case studies per week from
the field of construction safety (via Blackboard). Students are also
required to provide specific sources where they obtain their accident case
studies. Areas in which students are asked to find case studies include
excavation and trenching, fall protection, cranes, concrete safety,
HAZMAT for construction, and several other areas. Furthermore, they are
also required to provide violations for each case study (which could have
ultimately led to the accident in question). Finally, students are required
to provide a page number in their class text that lists the standards that
were violated. Dr. Nichols then cross-checks these violations with the
 corresponving pages to the text. Scores on these exercises were generally
in the high ranges, and student participation was always 95% of more (due
to the fact that these were required exercises for the course, and the point
value on the exercises was generally so high). (Nichols)

C. Analysis and interpretation

Graduates of the department of occupational safety & health are capable of
understanding computer usage and OSHA, FEMA, DOT, NIOSH, J.J. Keller, and
ASSE online programs.

5. Manifest oral and written communication skills in presentation of occupational
safety and health training situations through required courses in management,
ergonomics, industrial hygiene, HAZMAT, and indoor air quality systems
safety.

A. Assessment methods

- Number of students participating in the assessment: 347
- How were students selected to participate in the assessment? All students
  enrolled in occupational safety MS classes during the fall, 2009 – summer,
  2010 academic period plus general online survey and graduate surveys.
- What is the make-up of the sample? All students enrolled in occupational
  safety MS classes during the fall, 2009 – summer, 2010 academic period
  plus general online survey and graduate surveys.
- What work was evaluated? Presentations, reports, and group projects in
courses pertinent to the objective were studied.
- How was work evaluated? By individual professors and by the
department chair.
What data resulted from the assessment? Individual and group project and presentation scores.

B. Results of the assessments

Presentation and group project scores in Advanced Safety Program Management, HAZMAT II, and Indoor Air Quality indicated that students were capable of presentation and demonstration skills necessary for a successful career in occupational safety and health. This being an online program oral presentation skills are more difficult to assess as the program leans more heavily on written and online presentation skills.

Individual courses within the program reported average letter grades of sufficient strength to enable professors to determine that successful students understood the principles of oral and written communication. Classes in Advanced Safety Program Management; Legal Liability and Workers Compensation; HAZMAT II; Construction Safety II; Indoor Air Quality; and Philosophy of Safety Management were successfully completed by 100% of the students who attempted them. The courses included group presentations, individual presentations, and exams which included statistical analysis and interpretation.

SFTY 5143 and SFTY 5163 courses provide multiple opportunities for students to become immersed in the practical applications of various concepts involving legal liability and the utilization of construction safety standards. In my SFTY 5143 course, weekly assignments in the required text call for students to answer specific questions regarding legal liability in modern general industry, construction, and mining safety. Each of the questions address very specific legal liability concepts in these fields, building upon concepts initially presented in the undergraduate version of the course (SFTY 4173). Once that course is successfully completed, students proceed to my SFTY 5163 course, where weekly assignments require them to (1) select actual accident case studies from credible sources, and (2) cross-reference standard violations from these case studies with the construction safety standards contained in the required class text. Initial students in the course have provided very positive feedback, and generally high final scores on both of the above assignments. Modifications will be made to each prior to the next course offerings, in order to further clarify my requirements for students as to what constitutes successful assignment completion. Additional semesters of instruction are necessary in order to complete further analyses.

SFTY 5233 – Advance Ergonomic Engineering, Fall 2008 had a total of 27 students completing the course with a mean grade of 4.0. This course
is designed to allow students to apply ergonomic applications to industrial and commercial settings. This class was offered as an internet class which allowed all students to become familiar with various internet methods. (Lewis) SFTY 5233 – Advance Ergonomic Engineering, Fall 2008 had a total of 27 students completing the course with a mean grade of 4.0. This course is designed to allow students to apply ergonomic applications to industrial and commercial settings. This class was offered as an internet class which allowed all students to become familiar with various internet methods.

- The topic **manifest oral and written communication skills in presentation of occupational safety and health training situations through advanced courses in management, ergonomics, and systems safety** is addressed in-depth when Dr. Nichols teaches SFTY 5143: Legal Liability and Worker’s Compensation in Safety and Health. In SFTY 5143, students are assigned a project in which they must build a case in order to defend their “company” against a fraudulent worker’s compensation claim. The goal of the assignment (based on an actual worker’s compensation case involving ergonomically-related injuries) is to get the claim denied by the worker’s compensation “judge/hearing officer” (Dr. Nichols). Students are provided with complete job descriptions, worker’s compensation forms, job safety analyses, worker’s compensation claim forms, (which must be completed correctly) and medical information for the two employees in question. Furthermore, students are instructed that they have informed their immediate supervisor that they “have all of the evidence necessary to obtain a denial of the worker’s compensation claim.” It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their “case” to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high).

These topics are addressed in-depth when Dr. Nichols teaches SFTY 5163: Construction Safety II, through the assignment of a Site Specific Safety Plan exercise. In this exercise, students are provided with a fictitious construction job, and then asked to build a Site Specific Safety plan that could be utilized on the jobsite for the project in question (if it were an actual construction project). Students are provided with guidelines, outlines and project parameters that are devised by Dr. Nichols. Furthermore, students are instructed to complete the project utilizing CALO/SHA standards, which are some of the most demanding state standards in the nation. Areas that students are asked to address
include (but are not limited to) HAZMAT for construction, job safety analyses, fall protection, program management and site security. It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their Site Specific Safety Plan to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high). (Nichols)

C. Analysis and interpretation

- Graduates of the department of occupational safety & health are capable of presentation skills and the interpretation of concepts and are able to present and defend their findings. They are capable presenting Fault Tree Analysis, insurance analysis and claims adjustment and mitigation, and Job Safety Analysis as exhibited by their presentation in relevant MS courses. They are further capable of presenting and defending insurance statistics and able to understand and present insurance statistical methods upon successful completion of the prescribed course of study.

- Presentation and group project scores in Safety Program Management and Safety Training and Instructional Techniques indicated that students were capable of presentation and demonstration skills necessary for a successful career in occupational safety and health.

6. Work independently in analyzing and solving problems in occupational safety & health through proper instruction and internship experiences.

A. Assessment methods

- Number of students participating in the assessment: 7
- How were students selected to participate in the assessment? All students in the program during the fall, 2009 – summer, 2010 academic period, in internship positions.
- What is the make-up of the sample? All graduating students in the program during the fall, 2009 – summer, 2010 academic period in internship positions.
- What work was evaluated? Weekly internship reports, and assignments in Senior Seminar class to include resumes, cover letters, interview skills, and presentations.
- How was work evaluated? By the department chair.
• What data resulted from the assessment? Successful completion of senior projects, internships, and job searches.

B. Results of the assessments

• Those students in internship positions were able to demonstrate their ability to work independently through projects and assignments and put their experience and occupational safety training into practice by guided performance on-the-job through internship opportunities. Seven graduate students participated in the fall 2009 - summer 2010 internship program with excellent reviews by employers.

• The topic work independently in analyzing and solving problems in occupational safety & health through proper instruction and practicum is addressed in-depth when Dr. Nichols teaches SFTY 5143: Legal Liability and Worker’s Compensation in Safety and Health. In SFTY 5143, students are assigned a project in which they must build a case in order to defend their “company” against a fraudulent worker’s compensation claim. The goal of the assignment (based on an actual worker’s compensation case involving ergonomically-related injuries) is to get the claim denied by the worker’s compensation “judge/hearing officer” (Dr. Nichols). Students are provided with complete job descriptions, worker’s compensation forms, job safety analyses, worker’s compensation claim forms, (which must be completed correctly) and medical information for the two employees in question. Furthermore, students are instructed that they have informed their immediate supervisor that they “have all of the evidence necessary to obtain a denial of the worker’s compensation claim.” It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their “case” to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high).

These topics are addressed in-depth when Dr. Nichols teaches SFTY 5163: Construction Safety II, through the assignment of a Site Specific Safety Plan exercise. In this exercise, students are provided with a fictitious construction job, and then asked to build a Site Specific Safety plan that could be utilized on the jobsite for the project in question (if it were an actual construction project). Students are provided with guidelines, outlines and project parameters that are devised by Dr. Nichols. Furthermore, students are instructed to complete the project utilizing CALOSHA standards, which are some of the most demanding
state standards in the nation. Areas that students are asked to address include (but are not limited to) HAZMAT for construction, job safety analyses, fall protection, program management and site security. It is then up to the students to construct and mail (via U.S. Mail or other means) a physical binder presenting their Site Specific Safety Plan to Dr. Nichols. Dr. Nichols then grades the students based on the quality of the evidence they present, and a rubric that is posted in the course for the exercise. The binders are then returned to the students. Scores on these exercises were generally in the middle to high ranges, and student participation was always 100% (due to the fact that this was a required exercise for the course, and the point value on the exercise was so high). (Nichols)

C. Analysis and interpretation

- 25 students have graduated from the MS in OSH program (includes summer 2010 graduates). Of the 25, eight completed the internship practicum. Seven of the eight are employed in OSH.

7. **Obtain an entry-level position in occupational safety & health, continue with current occupational safety employment, or be admitted to an accredited doctoral program in occupational safety & health or a related discipline.**

A. Assessment methods

- Number of students participating in the assessment: 25
- How were students selected to participate in the assessment? All students graduating from the MS program.
- What is the make-up of the sample? The department experienced its first graduate with the summer 2009 semester.
- What work was evaluated? Successful job placement or graduate school acceptance.
- How was work evaluated? By the department chair.
- What data resulted from the assessment? 100% (25 students) graduated from the program and continued with gainful employment in the OSH profession.

B. Results of the assessments

- 25 students have graduated from the MS in OSH program (includes summer 2010 graduates). Of the 25, 23 are gainfully employed in the OSH profession.
Strengths and Weaknesses of the Program as Indicated by the Data:

- Since the program is only three-years old we have not made any significant comparisons to determine strengths or weaknesses at this time. Limited historical comparisons should be available in the coming years and the program generates more students and graduates.

IETV and web-based instruction Assessment

The department currently has several web-based course offerings and, with the addition of the Master of Science degree in a primarily online format, the number of courses offered in that mode of instruction will increase to approximately eight per semester.

*Online* graduate courses offered during the assessment period:

<table>
<thead>
<tr>
<th>Course #</th>
<th>Semester Offered</th>
<th>Offered Online (Yes or No)</th>
<th>Offered Blended (Yes or No)</th>
<th>Offered as Face-to-Face (Yes or No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFTY-5103</td>
<td>Fall, 2009</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SFTY-5244</td>
<td>Fall, 2009</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SFTY-5253</td>
<td>Fall, 2009</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SFTY-5214</td>
<td>Spring, 2010</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SFTY-5223</td>
<td>Spring, 2010</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<tr>
<td>SFTY-5233</td>
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<td>No</td>
</tr>
<tr>
<td>SFTY-5253</td>
<td>Spring, 2010</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SFTY-5123</td>
<td>Summer, 2010</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SFTY-5263</td>
<td>Summer, 2010</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

All MS degree program courses are online with *no* face-to-face sections. Courses were evaluated using the Internet Course Survey form but since only two students completed the survey no changes were made to course content based on the survey. The courses met the goals and objectives the same as face-to-face classes in the BS program by using exams, presentations, discussion (boards), and projects to prove proficiency in the subject. Detailed course content and student performance criteria is described in sections 1 – 5 of the assessment document.

Dean, School of Arts & Sciences

Chair, Department of Occupational Safety & Health