Program Review

BS
SAFETY TECHNOLOGY

COLLEGE OF INFORMATION TECHNOLOGY & ENGINEERING

November 2010

MARSHALL UNIVERSITY
Program Review
Marshall University

Date: October 2010

Program: BS Safety Technology

Date of Last Review: 2005

Recommendation
Marshall University is obligated to recommend continuance or discontinuance of a program and to provide a brief rationale for the recommendation.

Recommendation Code (#):

1. Continuation of the program at the current level of activity; or

2. Continuation of the program at a reduced level of activity or with corrective action: Corrective action will apply to programs that have deficiencies that the program itself can address and correct. Progress report due by November 1 next academic year; or

3. Continuation of the program with identification of the program for resource development: Resource development will apply to already viable programs that require additional resources from the Administration to help achieve their full potential. This designation is considered an investment in a viable program as opposed to addressing issues of a weak program. Progress report due by November 1 next academic year; or

4. Development of a cooperative program with another institution, or sharing of courses, facilities, faculty, and the like; or

5. Discontinuation of the program

Rationale for Recommendation: (Deans, please submit the rationale as a separate document. Beyond the College level, any office that disagrees with the previous recommendation must submit a separate rationale and append it to this document with appropriate signature.)

1. Allan Stern 10/14/2010
Recommendation: Signature of person preparing the report: Date:

1. Allan Stern 10/14/2010
Recommendation: Signature of Program Chair: Date:

1. Betsy E. Dulin 10/14/2010
Recommendation: Signature of Academic Dean: Date:

1. James McIntosh 11/16/2010
Recommendation: Signature of Chair, Academic Planning Committee: (Baccalaureate pgms only) Date:

Recommendation: Signature of President, Faculty Senate/Chair, Graduate Council: Date:

Recommendation: Signature of the Provost and Senior Vice President for Academic Affairs: Date:

Recommendation: Signature of the President: Date:

Recommendation: Signature of Chair, Board of Governors: Date:
College/School Dean’s Recommendation

Deans, please indicate your recommendation and submit the rationale.

Recommendation:

Continue program at current level of activity.

Rationale:
(If you recommend a program for resource development identify all areas for specific development)

The BS in Safety Technology is a solid program, with respect to both enrollment and content. The program has a long and consistent history of successful placement of graduates, industry/employer involvement, and accreditation by the Accreditation Board for Engineering and Technology. With its current enrollment, the Safety program is functioning well and its graduates are experiencing record success rates in obtaining full employment in the safety/environmental field at or shortly following graduation.

The primary issue of concern for the program is space. The program is housed in a location that is remote from CITE’s other undergraduate degree programs in engineering and computer science, and there is very limited access to high-technology classrooms and laboratories. CITE has made every effort to include as many BS Safety program activities as possible in the Weisberg Engineering Laboratory facility. However, with the exception of the use of the Visualization Lab for classes and safety-related research, most of the space in the WEL building is already over-utilized in support of the BS in Engineering program. If enrollment growth and collaboration with these other CITE degree programs (which would be highly beneficial to all the programs and students) is envisioned for the future, additional space needs and physical location issues will require attention.

Signature of the Dean
1/13/09

Date
10/14/10
Marshall University
Program Review

For purposes of program review, the academic year will begin in summer and end in spring.

Program: Safety Technology

College: College of Information Technology & Engineering

Date of Last Review: November 2005

I CONSISTENCY WITH UNIVERSITY MISSION

The BS in Safety Technology degree program within the College of Information Technology and Engineering at Marshall University provides students with a comprehensive and broad-based preparatory experience, including rigorous and relevant coursework as well as real-world applications of skills for entry-level occupational safety and health positions with industrial, commercial, governmental and service organizations. The mission of the Safety Technology program is to:

A. Provide students with a high quality undergraduate education leading to the development of well prepared graduates with the academic, technical and social skills essential for successful employment in the occupational safety and health profession

B. Provide students with authentic experiential learning opportunities including internships, service learning, outreach activities, facility tours and field exercises as well as professional meetings and conferences, that promote personal growth, professional collaboration, cultural diversity and a duty to serve and protect people, property and the environment, and

C. Provide research opportunities for faculty and students in areas consistent with the environmental health and safety needs and interests of the region.

The BS in Safety Technology educational objectives were developed in accordance with the mission of Marshall University, and in particular, these specific aspects the Marshall University Mission Statement played a major role in the Safety Technology program development.

- Provide affordable, high quality undergraduate and graduate education appropriate for the state and the region;
- Promote economic development through research, collaboration and technological innovations;
- Educate a citizenry capable of living and working effectively in a global environment.
The BS in Safety Technology Program’s Educational Objectives clearly reflect the College’s mission through their focus on practice-oriented teaching, applied research, life-long learning and technology enhanced instructional methods.

The BS in Safety Technology’s educational objectives describe the career and professional competencies expected of students graduating with a Bachelor of Science degree in Safety Technology. The curriculum designed to achieve these objectives prepares students for entry-level positions. The occupational safety and health profession is a career field concerned with the preservation of both human and material resources through the application of various principles drawn from such traditional disciplines as anatomy, biology, chemistry, communications, engineering, management, math, physics, physiology and psychology.

II  ACCREDITATION INFORMATION

A  The program is accredited by the Accreditation Board of Engineering and Technology (ABET). ABET is a nationally recognized organization responsible for accrediting Engineering and Technology programs

B  The Safety Technology Program received its last accreditation for a full six years in 2004. The program will be undergoing an accreditation visit in November 2010. The accreditation report is included immediately following this section. This report notes the strengths and weaknesses of both the program and university.
ABET
Applied Science Accreditation Commission

Summary of Accreditation Actions
for the
2003-04 Accreditation Cycle

Marshall University
Huntington, WV

Safety Technology Occupational Safety Option (BS)

Accredit to September 30, 2010. A request to ABET by January 31, 2009 will be required to initiate a reaccreditation evaluation visit. In preparation for the visit, a Self-Study Report must be submitted to ABET by July 1, 2009. The reaccreditation evaluation will be a comprehensive general review.
C  Accreditation status: The program received regular accreditation which is good for six years.

D  Attach a copy of the accreditation organization’s report to the University if different from B. No Difference.

E  See attached report from Accreditation organization. The report will give the reader detailed information as to how the program performed.

F  A copy of the new 2010 accreditation report is available for review.
III PROGRAM STATEMENT on Adequacy, Viability, Necessity and Consistency with University/College Mission

A. ADEQUACY

1. Curriculum: The BS in Safety Technology requires all students to have 120 hours of university course work for graduation. This requirement is in line with the University Core Curriculum. Of this 120 hours, 41 hours are discipline specific requirements and 6 hours are discipline required elective. See Appendix I, for further explanation of the program’s specific requirements.

2. Faculty: The Safety Technology program has five full time faculty members teaching within the department. We generally use one adjunct faculty member once a year and do not use teaching assistants within the program. Three faculty members hold doctorate degrees from accredited universities and the remaining two possess Master’s degrees along with significant industrial world experience. One faculty member is a registered engineer, and three hold Certified Safety Professional designations and one is also a Certified Industrial Hygienist.

All faculty members attend both national and regional conferences and have presented papers and have had articles printed in professional journals during the past five years.

Appendix II Faculty Data Sheets have more information.

3. Students:

a. Entrance Standards: All students entering the program must meet the same entrance standards as all other students in the university. Specifically the students must have a high school diploma; an overall grade point average of at 2.00; and a composite score of at least 19 on the ACT or 910 on the SAT; completion of Higher Education Policy Commission (HEPC) course requirements. In addition the BS in Safety Technology requires a minimum math ACT of 19 or SAT of 460 for admission.

b. Entrance Abilities: All students entering the program meet or exceed the minimum ACT or SAT scores. This information can be found in Appendix III.
c. Exit Abilities: All students who graduate from the program are awarded the GSP (Graduate Safety Practitioner) by the Board of Certified Safety Professionals. Additionally, graduates can also obtain the CSHM (Certified Safety and Health Manager). Further information is listed in Appendix IV.

4. Resources:

a. Financial: Over the past five years, the budget allocation for this program has been satisfactory. In the last two years the university has provided the Division of Applied Science & Technology with adequate funding. A breakdown of the funding is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$68,300.00</td>
</tr>
<tr>
<td>2009</td>
<td>$50,866.00</td>
</tr>
<tr>
<td>2008</td>
<td>$50,866.00</td>
</tr>
<tr>
<td>2007</td>
<td>$15,957.00 (budget reduction)</td>
</tr>
<tr>
<td>2006</td>
<td>$16,000.00</td>
</tr>
</tbody>
</table>

In 2007, the state required all programs to undergo a budget reduction; that is the reason for the figure. Additionally the program did not have that large of a budget to start with. The large increases noted for the following years are due to better resource allocation by the college for all programs.

If this program were terminated, both the university and state would lose one of only two ABET accredited undergraduate programs in the State of West Virginia. The undergraduate program is one of only approximately ten accredited programs in the United States. Four faculty members would have to be terminated or reassigned; and over seventy students would have to be accommodated; a secretary and several graduate assistantships would also be lost. The university, state and community would lose a vital resource reference in the field of Occupational Safety and Health in addition to the monetary loss this would bring to the area from losing all these resources.

b. Facilities: This area is covered under Criterion 7, page 66 of the latest ABET report. Each faculty member has a dedicated office, in that office is a university computer for the use of the faculty member. Located within the office complex is a small library available for student use and
within this library are two computers and a printer that they may use. Students have access to computer labs across the university located in major buildings. The university library provides a limited amount of funding to purchase new library holdings. Additionally faculty members have been able to make major purchases of a variety of ergonomic or industrial hygiene equipment from the upgraded budget. And, the program has had some generous donations to further purchase equipment made by Marathon Ashland Oil in the past year. Laboratory space is provided by the college in the Weisberg Engineering building to hold the Ergonomic and Industrial Hygiene labs.

5. Assessment Information:

a. The program is attempting to get a handle on positive assessment and gain valuable feedback on how to apply the knowledge obtained. Another attempt has been made to incorporate the ABET program objectives into a useful rubric that can be used to direct us in our effort. In Appendix V, we have attempted to outline the objectives as set forth by ABET.

For program assessment, ABET lists several methods that can be used to address this area. One method is by using Exit Interviews. All our graduates are given an exit interview where they cross correlate the A-K objectives via a rubric on each course. They also are allowed to offer written feedback on every course they have taken.

Furthermore for future use the faculty will develop a multiple choice test consisting of 30 to 50 questions designed to test a graduate’s knowledge base on course materials and subject matter. And an accident investigation problem (simulation) will also be given to the students to test them on observational skills and reasoning.

Finally, upgrading the capstone project (Internship) will provide a fourth assessment measure on how the students have done during their four years at Marshall and within the Safety Technology Program.
b. **Other Learning and Service Activities**

There are no other learning or service activities at the present time.

c. **Plans for Program Improvement**

Based on assessment data, the program needs to close the feedback loop. The timeline for assessment is located in Appendix V.

d. **Graduate and Employer Satisfaction**

All students exiting the program are interviewed by our Associate Dean and given an exit questionnaire to assess how well the program did in helping the students meet and achieve the program outcomes. This helps in providing feedback on the different courses taken in the major and how closely we have met the outcomes. Contact is made with former students from lists compiled from the Alumni Office or faculty meeting students at various conferences and obtaining business cards so they can be added to the contact list. From talking to our graduates at these conferences they all appear to be enjoying the positions they have obtained following graduation. Or they have been promoted into other positions with more responsibility. Perhaps another survey to employers one year out would be a good idea to follow up on or have something to hand out to our graduates that they could take home and report back to the program.

e. The previous five year undergraduate reports are included.

6. **Previous Reviews:** The Safety Technology Program was given a continuation with no changes during the last Five year program review. One specific weakness noted in the last review was “that the safety faculty salaries are lower than those at institutions with similar or accredited programs. While considerable effort has been made by the administration to remedy this problem, new faculty hires have been at “market salaries” which have further increased the gap between the salary of faculty having more seniority and experience than new hires. A second weakness is not getting the word out to prospective undergraduate students about the job opportunities and potential within this field. It is imperative to promote this program among undeclared freshmen, and other
university programs such as nursing, business and science majors.” This was a weakness we expressed four years ago. Salaries are about the same and are in the hands of others. We still are frustrated with how we can get the word out to prospective students. The faculty have met with individuals from the Career Services Office and Recruitment Office to discuss ways to help the program expand the efforts to recruit new students. One positive note is that the program has tried several student meetings to discuss with program students scholarship, internship and job opportunities. These are being discussed for future dates. The concerns expressed by the last ABET visit have been addressed and have been resolved.

7. **Strengths/Weaknesses:**

We are weak in addressing the feedback loop of our assessment program and need to close it. To close this feedback loop, faculty will have to return papers and tests back to the students in a more timely manner and discuss the results with them. Additionally, we need to be able to cross check the program outcomes with specific test questions and projects, analyze these data on student learning, identify the weaknesses found and make program improvements. This is a faculty issue we are working on. Our strength lies in our dedicated faculty

B. **VIABILITY** Provide a narrative summary for each of the following items in addition to requested appendices.

1. **Articulation Agreements:** No articulation agreements exist between Marshall University and other schools for this program.

2. **Off-Campus Classes:** There are no off campus courses being offered in this program.

3. **Online Courses:** At the time of this report there are no online classes being offered by the program.

4. **Service Courses:** SFT 235 Introduction to Safety is a required course for Physical Education majors; College of Education Driver Education specialization. Please refer to Appendix VI for this information.

5. **Program Course Enrollment:** Appendix VI shows the trends in the specifics on course enrollments. It will be noted that most courses show very strong enrollment trends.
6. **Program Enrollment**: If you turn to Appendix VII it will be noted that the number of students entering the program has more or less increased over the past five years. The number of new students being admitted to the program has gone up from 7 in 2005 to 12 in 2009. While not a big increase it is a slow march forward. The total number of students enrolled in the program shows an increase ending with 72 students enrolled.

7. **Enrollment Projections**: Based upon current trends, we appear to be growing at the rate of about five students a year who transfer into the BS program from other majors. We obtain several transfers from the engineering program or nursing and other areas. We also see a continued growth in the field as business and industries continue to grow in the future. However, due to the downturn in the economy it has been noted that the number of professional openings has decreased.

C. **NECESSITY**: NOTE: If your program is accredited, please refer to the appropriate page numbers in your accreditation report. Provide a narrative summary for each of the following items in addition to requested appendices.

1. **Advisory Committee**: An advisory committee was formed in 2009 and has met several times. Committee members are enlisted from former students and individuals working in industry and government. The committee has approximately 14 members and they serve in an advisory capacity reviewing the curriculum and suggesting changes. The committee has been meeting regularly this past year. Committee members come from a widely diverse background of professions. Some members work for Brick Street Insurance Company, Marathon Ashland Petroleum, a Law Firm, National Mine Academy, Alcon Labs and WV Department of Occupational Safety and Health to list a few. So our members are on the leading edge of industry.

2. **Graduates**: Students graduating from the BS program have an excellent placement rate. We would estimate that most graduates wanting a position find a position eventually. Most graduates have positions upon graduating, having obtained them through the internship they do their Senior year. Salaries start in the mid 30’s and would vary depending upon the area of the United States the students start in. Some companies offer “perks” like expense
accounts or perhaps a company vehicle. Please see Appendix VIII.

3. **Job Placement:** Students learn of professional positions in several ways. First, companies having openings will contact either or both the Department and/or Career Services with the opening. These are then sent out via a mass email to our alumni and students. Secondly, we may get a call from alumni seeking an upcoming graduate or someone looking to advance his or her career. Students may attend conferences where they make contact with other professionals seeking new hires. They may try various web sites like “monsterjobs.com” or “USA Jobs” to name a couple. We have worked with the Career Services department on conducting interview skills, resume writing and other skill development. The department has sponsored a few companies coming on campus to directly speak to the students on future job openings. The college does an exit interview with all Seniors and they are asked about jobs. In addition the College does follow up interviews after a time period following graduation.

IV. **RESOURCE DEVELOPMENT (If applicable)**
Appendix I  
Required/Elective Course Work in the Program

Degree Program: BS Safety  
Person responsible for the report: Dr. Allan Stern

<table>
<thead>
<tr>
<th>Courses Required in Major</th>
<th>Total Required Hours</th>
<th>Elective Credit Required by the Major Students are required to choose 6 hours</th>
<th>Elective Hours</th>
<th>Related Fields Courses Required</th>
<th>Total Related Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFT 235 Intro to Safety</td>
<td>3</td>
<td>SFT 378 Safety Evaluation</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 340 Industrial Fire Prevention</td>
<td>3</td>
<td>SFT 453 International Safety</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 372 Safety &amp; Industrial Tech</td>
<td>3</td>
<td>SFT 497 Occu Safety &amp; Health Program</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 373 Principles of Ergonomics</td>
<td>3</td>
<td>SFT 480 Special Topics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 373 L Principles of Ergo Lab</td>
<td>3</td>
<td>SFT 485 Independent Study</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 375 Construction Safety</td>
<td>3</td>
<td>SFT 491 Workshop</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>SFT 454 Industrial Enviorn Protection</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 454 L Ind. Enviro Protection Lab</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 460 Safety Training Methods</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>SFT 465 Incident Investigation Tech</td>
<td>3</td>
<td></td>
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<tr>
<td>SFT 489 Process Safety Managem</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SFT 498 Enviro Safety &amp; Health Leg</td>
<td>3</td>
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<tr>
<td>SFT 499 Organ. Admin &amp; Sup or SFT Programs</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SFT 490 Internship (Capstone)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

| Total                                               | 41                   | 6                                                                           |                |                               |                     |

Expand table as needed. Professional society that may have influenced the program offering and/or requirements:
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: David Allan Stern  
Rank: Full Professor

Status (Check one): Full-time _x_ Part-time ___ Adjunct _____ Current MU Faculty: Yes ___ No ___

Highest Degree Earned: __Ed.D__________ Date Degree Received: 1977

Conferred by: Texas A&M University

Area of Specialization: Industrial Education

Professional Registration/Licensure__________________ Agency: _________________________________

Years non-teaching experience
Years of employment other than Marshall
Years of employment at Marshall: 34
Years of employment in higher education
Years of service at Marshall during this period of review: 5

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
<tr>
<th>Year/Semester</th>
<th>Alpha Des. &amp; No.</th>
<th>Title</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SFT 235</td>
<td>Introduction to Safety</td>
<td>35</td>
</tr>
<tr>
<td>2010/Spring</td>
<td>SFT 235</td>
<td>Internship</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>SFT 490</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2009/Fall</td>
<td>SFT 235</td>
<td>Introduction to Safety</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>SFT 235</td>
<td>Internship</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>SFT 490</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>2009 Spring</td>
<td>SFT 235</td>
<td>Introduction to Safety</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>SFT 235</td>
<td>Internship</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>SFT 490</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.

   Attended the National ASSE Conference in Baltimore, MD 2010
   Attended the National ASSE Conference in San Antonio, TX 2009

3) Discipline-related books/papers published (provide a full citation).
4) Papers presented at state, regional, national, or international conferences.
5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.
6) Externally funded research grants and contracts you received.
7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
8) Community service as defined in the *Greenbook*. 
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: Anthony B. Szwilski  Rank: Professor

Status (Check one): Full-time___x___ Part-time_____ Adjunct _____
Current MU Faculty: Yes ___x_ No ___

Highest Degree Earned: Ph.D.  Date Degree Received: 1975

Conferred by: University of Nottingham, United Kingdom

Area of Specialization: Geomechanics

Professional Registration/Licensure  PE  Agency: _______________________________

Years non-teaching experience  7
Years of employment other than Marshall  34
Years of employment at Marshall  16
Years of employment in higher education  34
Years in service at Marshall during this period of review  5

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
<tr>
<th>Year/Semester</th>
<th>Alpha Des. &amp; No.</th>
<th>Title</th>
<th>Enrollment</th>
</tr>
</thead>
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<tr>
<td>2010/Spring</td>
<td>SFT 235</td>
<td>Intro to Safety</td>
<td>32</td>
</tr>
<tr>
<td>2010/Spring</td>
<td>SFT 482</td>
<td>Virtual Reality Apps/SFT</td>
<td>10</td>
</tr>
<tr>
<td>2009/Fall</td>
<td>SFT 235</td>
<td>Intro to Safety</td>
<td>35</td>
</tr>
</tbody>
</table>

NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2. Activities that have enhanced his teaching and or research:
   * 2009: Facilitate and Manage the Development of a State of West Virginia Land Stewardship Trust Fund Program.

3. Discipline-related books/papers published:
* Szwilski, A.B., Lees, Jr, H.M., et al., to published “Employing High Accuracy DGPS to Monitor Track Shift” 7th World Congress on Railway Research, Montreal, Canada, June 2006.

4. Papers presented at state, regional, national, or international conferences:
* "Employing High Accuracy DGPS to Monitor Track Shift" 7th World Congress on Railway Research, Montreal, Canada, June 2006.

5. Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations:
* Szwilski is
  - Professional membership of Society of American Military Engineers.
  - Professional membership of Midland Institute of Mining Engineers.
  - Director, Center for Environmental, Geotechnical and Applied Science, 2006-2010.
  - Director of the Southern West Virginia Brownfields Assistance Center, 2006-2010.
  - Chair of the Appalachian States Coalition for Geological Hazards in Transportation, 2003-2010.
  - Co-Director of the West Virginia Water Resource Management Program, with the West Virginia University Water Research Institute and West Virginia Department of Environmental Protection.

6. Externally funded research grants and contacts you received:
* Cyberinfrastructure for Transformational Scientific Discovery, $1.35 million, EPSCoR-NSF.
* Mine Safety Technology Innovation Capability and Regional Business Development for the U.S. Mining Industry, $4 million funding from the Economic Development Administration, State of West Virginia and industry.
* Developing an Intergraded Track Stability Assessment and Monitoring System for Railway Track: Intelligent Transportation Systems for Railroads. Federal Rail Administration funding. Total funding $5.85 million.
* Development of the Visualization Resource Center at Marshall University, $257,000, US. Department of Education.
* Facilitate and Manage the Development of a State of West Virginia Land Stewardship Trust Fund Program, $128,000, West Virginia State Department of Environmental Protection.

7. Awards/honors (including invitations to speak in your area of expertise) or special recognition:
* Swilski is
  - Professional Engineer (PE), Kentucky (# 12312); West Virginia (# 14269)
  - European Engineer (Eur Ing)
  - Chartered Engineer (CEng), United Kingdom

8. Community services as defined in the Greenbook:
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: Clair Roudebush  Rank: Associate Professor

Status (Check one): Full-time x Part-time_____ Adjunct _____ Current MU Faculty: Yes ___x___ No ___

Highest Degree Earned: Ph.D  Date Degree Received: 1987

Conferred by: Texas A & M University

Area of Specialization: Engineering Technology

Professional Registration/Licensure  CSP Agency: BCSP

<table>
<thead>
<tr>
<th>Years non-teaching experience</th>
<th>CSP</th>
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<tbody>
<tr>
<td>4</td>
<td></td>
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<table>
<thead>
<tr>
<th>Years of employment other than Marshall</th>
<th>CSP</th>
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<tr>
<td>22</td>
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List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
<tr>
<th>Year/Semester</th>
<th>Alpha Des. &amp; No.</th>
<th>Title</th>
<th>Enrollment</th>
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<tr>
<td>2010/Spring</td>
<td>SFT 372</td>
<td>Safety &amp; Industrial Tech</td>
<td>28</td>
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<tr>
<td></td>
<td>SFT 498</td>
<td>Safety &amp; Health Legislation</td>
<td>10</td>
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<td></td>
<td>SFT 499</td>
<td>Safety &amp; health Program Mgmt</td>
<td>13</td>
</tr>
<tr>
<td>2009/Fall</td>
<td>SFT 340</td>
<td>Industrial Fire Protection</td>
<td>20</td>
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<tr>
<td></td>
<td>SFT 375</td>
<td>Construction Safety</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>SFT 375</td>
<td>Construction Safety</td>
<td>12</td>
</tr>
<tr>
<td>2008/Spring</td>
<td>SFT 372</td>
<td>Safety &amp; Industrial Tech</td>
<td>19</td>
</tr>
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<td></td>
<td>SFT 498</td>
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<td>SFT 499</td>
<td>Safety &amp; Health Program Mgmt</td>
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<td>SFT 340</td>
<td>Industrial Fire Protection</td>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2. Activities that have enhanced his teaching and or research:
   * 2010: The Effect of Harmonic Radio Frequency Interference on Catastrophic Failure of Safety Related Control Circuits.
   * 2006: An Analysis of Coefficients of Friction on Spray Painted and Decaled Asphalt Surfaces.
3. Discipline-related books/papers published:

4. Papers presented at state, regional, national, or international conferences:
None

5. Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations:
* Roudebush is
  - Professional Membership of Voting member ASTM F-13 Subcommittee (Walkway Safety & Safety Footwear).
  - Professional Membership of Voting member ASTM E-34 Occupational (Occupational Health and Safety).

6. Externally funded research grants and contacts you received:
* Summer Research Grant, $2,000, “The Effect of Harmonic Radio Frequency Interference on Catastrophic Failure of Safety Related Control Circuits”.
* Summer Research Grant, $2,000, “An Analysis of Coefficients of Friction on Spray Painted and Decaled Asphalt Surfaces”.
* Summer Research Grant, $2,000, “Safety Performance Characteristics of Genetic Compressed Air Stream Cleaning Apparatus”.

7. Awards/honors (including invitations to speak in your area of expertise) or special recognition:
* Roudebush is
  - Association for Technology, Management & Applied Engineering.
  - American Society for Testing & Materials.

8. Community services as defined in the Greenbook:
None
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: J. Patrick Conlon
Rank: Assistant Professor

Status (Check one): Full-time x Part-time_____ Adjunct ____ Current MU Faculty: Yes __x__ No __

Highest Degree Earned: M.S
Date Degree Received: 1978

Conferred by: University of Central Missouri

Area of Specialization: Industrial Hygiene

Professional Registration/Licensure CSP Agency: BCSP

Years non-teaching experience ________
Years of employment other than Marshall 26
Years of employment at Marshall ________
Years of employment in higher education 3
Years in service at Marshall during this period of review 5

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
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<tr>
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<th>Title</th>
<th>Enrollment</th>
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<td>SFT 453</td>
<td>International Safety &amp; Health</td>
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<td>SFT 454</td>
<td>Industrial Hygiene 1</td>
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<td></td>
<td>SFT 454L</td>
<td>Industrial Hygiene Lab</td>
<td>14</td>
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<tr>
<td></td>
<td>SFT 489</td>
<td>Process Safety Mgmt</td>
<td>10</td>
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<td>2009/Spring</td>
<td>SFT 378</td>
<td>Safety Eval &amp; Measurement</td>
<td>15</td>
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<td></td>
<td>SFT 4654</td>
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<td>SFT 453</td>
<td>International Safety &amp; Health</td>
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<tr>
<td></td>
<td>SFT 454</td>
<td>Industrial Hygiene 1</td>
<td>13</td>
</tr>
<tr>
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<td>SFT 454L</td>
<td>Industrial Hygiene Lab</td>
<td>13</td>
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<td></td>
<td>SFT 489</td>
<td>Process Safety Mgmt</td>
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<td>2008/Spring</td>
<td>SFT 465</td>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2. Activities that have enhanced his teaching and or research:
* Japan Studies Institute Fellowship, San Diego State University, AASCU (6/1 – 20/2008).

3. Discipline-related books/papers published:

4. Papers presented at state, regional, national, or international conferences:
None

5. Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations:
* Conlon is
  - Professional membership of American Society of Safety Engineers (1984 - present).
  - Professional membership of American Industrial Hygiene Association (1990 - present).
  - Professional membership of American Chemical Engineers (2006 - present).
  - Faculty Senate, CITE representative (2008 - 2010).
  - First Year Experience Committee (2007 - 2010).
  - Marshall University General Education Council (2009 - 2010).
  - CITE Curriculum Committee (2007 - 2010).
  - Campus Internationalization Committee (2006 - 2010).
  - United Way Campaign Committee, Faculty Senate representative (2008).
  - CATL Executive Director Search Committee (2007 - 2008).
  - Faculty Senate Legislative Affairs Committee (2006 - 2007).
  - Construction Committee, American Industrial Hygiene Association (2002 - present).

6. Externally funded research grants and contacts you received:
None

7. Awards/honors (including invitations to speak in your area of expertise) or special recognition:
* Conlon is
  - CIH, Comprehensive Practice, American Board of Industrial Hygiene, 1989 (expired 2005).
  - CSP, Comprehensive Practice, Board of Certified Safety Professionals, 1990 (active).

8. Community services as defined in the Greenbook:
None
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: James D. McIntosh  Rank: Assistant professor

Status (Check one): Full-time___x___ Part-time______  Adjunct ______Current MU Faculty: Yes ___  No _

Highest Degree Earned:  M.S.E.  Date Degree Received: 1987

Conferred by:  West Virginia University

Area of Specialization:  Industrial Engineering/Occupational Safety and Health

Professional Registration/Licensure  CSP  Agency:  BCSP

Years non-teaching experience  10
Years of employment other than Marshall  10
Years of employment at Marshall  5
Years of employment in higher education
Years in service at Marshall during this period of review  5

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
<tr>
<th>Year/Semester</th>
<th>Alpha Des. &amp; No.</th>
<th>Title</th>
<th>Enrollment</th>
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<td>Safety Training Methods</td>
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<td>2010/Spring</td>
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<td>Intro to Safety</td>
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<td>SFT 235</td>
<td>Intro to Safety</td>
<td>35</td>
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<td></td>
<td>SFT 372</td>
<td>Principles of Ergonomics</td>
<td>9</td>
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<td>SFT 372L</td>
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<td>9</td>
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<td>Intro to Safety</td>
<td>32</td>
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<td>SFT 235</td>
<td>Intro to Safety</td>
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<td>SFT 460</td>
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<td>Intro to Safety</td>
<td>32</td>
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<td>Intro to Safety</td>
<td>33</td>
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<td>SFT 373</td>
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<td>9</td>
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<td></td>
<td>SFT 373 L</td>
<td>Principles of Ergonomics Lab</td>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2. Activities that have enhanced his teaching and or research:
   * 2008 – 2010: Co-Principal Investigator, Mining Safety Innovations Project, USEDA, State of West Virginia and private sources.
25

* 2007 – 2008: Project Team Member, Southern WV Browns Field Assessment Center.

3. Discipline-related books/papers published:

4. Papers presented at state, regional, national, or international conferences:
None

5. Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations:
* McIntosh is
  - Professional membership of American Society of Safety Engineers (1984 - present).
  - Professional membership of Industrial Hygiene Association (1984 - present).
  - Professional membership of Alpha Pi Mu National – Industrial Engineering Honor Society.
  - Professional membership of Tau Beta Pi – Engineering Honor Society
  - Faculty Advisor American Society of Safety Engineers Student Chapter (2006 - 2010).
  - Chairman of the West Virginia Governor’s Safety Conference & Chamber of Commerce Safety and Health Committee (2007 - 2010).
  - President of the American Society of Safety Engineers, Southern West Virginia Chapter (2005).
  - Faculty Senate Budget and Academic Policy Committee (2008 - 2010).
  - Faculty Senate Faculty Development Committee (2005 - 2006).
  - Safety Technology Faculty Search Committee (2005 - 2006).
  - CITE Dean Search Committee (2007 - 2008).

6. Externally funded research grants and contacts you received:
* Mining Safety Innovation Project, USEDA, State of West Virginia and private sources, $4 million.

7. Awards/honors (including invitations to speak in your area of expertise) or special recognition:
None

8. Community services as defined in the Greenbook:
None
Appendix II

Faculty Data Sheet

(Information for the period of this review)

Name: John J. Rosiek, Jr.  Rank: Adjunct

Status (Check one): Full-time_____ Part-time_____ Adjunct x___ Current MU Faculty: Yes _ No__

Highest Degree Earned: M.S.  Date Degree Received: 1977

Conferred by: Marshall University

Area of Specialization: Safety
Professional Registration/Licensure_______________ Agency: ________________

Years non-teaching experience
Years of employment other than Marshall
Years of employment at Marshall
Years of employment in higher education
Years in service at Marshall during this period of review

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
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<tr>
<th>Year/Semester</th>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.
3) Discipline-related books/papers published (provide a full citation).
4) Papers presented at state, regional, national, or international conferences.
5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.
6) Externally funded research grants and contracts you received.
7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
8) Community service as defined in the *Greenbook*. 
## Appendix II
### Faculty Data Sheet
(Information for the period of this review)

Name: Brian Carrico  
Rank: Adjunct

Status (Check one): Full-time_____ Part-time_____ Adjunct ____ Current MU Faculty: Yes___ No __

Highest Degree Earned: M.S  
Date Degree Received: 2003

Conferred by: Marshall University

Area of Specialization: Safety

Professional Registration/Licensure

Agency: _______________________________

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<td>Years in service at Marshall during this period of review</td>
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</tr>
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</table>

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment.  
(Expand the table as necessary)

<table>
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<tr>
<th>Year/Semester</th>
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<th>Title</th>
<th>Enrollment</th>
</tr>
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<td>2010/Fall</td>
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<td>Intro to Safety</td>
<td>37</td>
</tr>
<tr>
<td>2009/Spring</td>
<td>SFT 235</td>
<td>Intro to Safety</td>
<td>39</td>
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<td>2009/Spring</td>
<td>SFT 597</td>
<td>Occ Safety and Health Program Development</td>
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<td>2006/Spring</td>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.
3) Discipline-related books/papers published (provide a full citation).
4) Papers presented at state, regional, national, or international conferences.
5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.
6) Externally funded research grants and contracts you received.
7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
8) Community service as defined in the Greenbook.
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: Stephen J. Hoyle ____________________________   Rank: ___________________________

Status (Check one): Full-time_____ Part-time_____ Adjunct X_Current MU Faculty: Yes X__ No ___

Highest Degree Earned: MS(LS) _________________ Date Degree Received: _1976__________

Conferred by: Simmons College, Boston, MA ____________________________________________

Area of Specialization: Library/Information Science _________________________________________

Professional Registration/Licensure_______________ Agency: _______________________________

Years non-teaching experience
Years of employment other than Marshall 33
Years of employment at Marshall At least 15
Years of employment in higher education
Years in service at Marshall during this period of review

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
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<tr>
<td>Summer 2008</td>
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<td>Summer 2010</td>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.
3) Discipline-related books/papers published (provide a full citation).
4) Papers presented at state, regional, national, or international conferences.
5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.
6) Externally funded research grants and contracts you received.
7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
8) Community service as defined in the Greenbook.
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: William R. Williams

Rank: ___________________________

Status (Check one): Full-time_____ Part-time_____ Adjunct X Current MU Faculty: Yes X__ No ___

Highest Degree Earned: _MS___________________ Date Degree Received: _2002___________

Conferred by: Marshall University

Area of Specialization: Mine Safety

Professional Registration/Licensure___________________ Agency: _______________________________

Years non-teaching experience  32_____
Years of employment other than Marshall  32_____
Years of employment at Marshall  2_____
Years of employment in higher education  8_____
Years in service at Marshall during this period of review  2_____

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
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<th>Title</th>
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<tr>
<td>Fall 2007</td>
<td>MSF 621</td>
<td>System Safety Engineering</td>
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<tr>
<td>Spring 2010</td>
<td>MSF 621</td>
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<td>12</td>
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<tr>
<td>Summer 2010</td>
<td>MSF 622</td>
<td>Accident Prevention in the Mining Industry</td>
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<tr>
<td>Fall 2010</td>
<td>MSF 625</td>
<td>Philosophy of Mine Safety and Health</td>
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</tbody>
</table>

NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.
3) Discipline-related books/papers published (provide a full citation).
4) Papers presented at state, regional, national, or international conferences.
5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.
6) Externally funded research grants and contracts you received.
7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
8) Community service as defined in the Greenbook.
Appendix II
Faculty Data Sheet
(Information for the period of this review)

Name: Robert Cline                                           Rank: Instructor

Status (Check one): Full-time_____ Part-time_____ Adjunct X
Current MU Faculty: Yes X No __

Highest Degree Earned: Masters                            Date Degree Received: August 2009

Conferred by: Marshall University

Area of Specialization: Mine Safety

Professional Registration/Licensure: Professional Teaching License Agency: West Virginia Department of Education

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<td>Years in service at Marshall during this period of review</td>
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List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
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<th>Year/Semester</th>
<th>Alpha Des. &amp; No.</th>
<th>Title</th>
<th>Enrollment</th>
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<td>Hazard Control in Mining</td>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.
3) Discipline-related books/papers published (provide a full citation).
4) Papers presented at state, regional, national, or international conferences.
5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.
6) Externally funded research grants and contracts you received.
7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
8) Community service as defined in the Greenbook.
## Appendix IIa
Teaching Assistant Data Sheet

<table>
<thead>
<tr>
<th>GTA Name</th>
<th>Course No.</th>
<th>Course Name</th>
<th>Year 1 20-20</th>
<th>Year 2 20-20</th>
<th>Year 3 20-20</th>
<th>Year 4 20-20</th>
<th>Year 5 20-20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(e.g. 101)</td>
<td></td>
<td>Su</td>
<td>Fa</td>
<td>Sp</td>
<td>Su</td>
<td>Fa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete graduate teaching assistant’s name; course number and course name taught; indicate enrollment in the semesters taught.

*Expand table as needed.*
## Appendix III

### Students’ Entrance Abilities: BS in Safety Technology

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Mean High School GPA</th>
<th>Mean College GPA</th>
<th>Mean ACT</th>
<th>Mean SAT Verbal</th>
<th>Mean SAT Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2005</td>
<td>4 Freshmen 1 Transfer</td>
<td>3.25</td>
<td>1.32</td>
<td>2.15</td>
<td>21 ($n = 3$)</td>
<td>---</td>
</tr>
<tr>
<td>Spring 2006</td>
<td>--- 2 Transfers</td>
<td>2.76</td>
<td>2.76</td>
<td>---</td>
<td>22 ($n = 1$)</td>
<td>---</td>
</tr>
<tr>
<td>Fall 2006</td>
<td>4 Freshmen 3 Transfers</td>
<td>3.31</td>
<td>3.57</td>
<td>2.65</td>
<td>23 ($n = 4$)</td>
<td>21 ($n = 1$)</td>
</tr>
<tr>
<td>Spring 2007</td>
<td>--- 1 Transfer</td>
<td>2.34</td>
<td>---</td>
<td>3.55</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Fall 2007</td>
<td>5 Freshmen 7 Transfers</td>
<td>3.18</td>
<td>2.97</td>
<td>2.58</td>
<td>21 ($n = 5$)</td>
<td>21.2 ($n = 5$)</td>
</tr>
<tr>
<td>Spring 2008</td>
<td>--- 2 Transfers</td>
<td>3.00</td>
<td>2.91</td>
<td>22 ($n = 2$)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>2 Freshmen 4 Transfers</td>
<td>3.38</td>
<td>3.55</td>
<td>2.74</td>
<td>21.0 ($n = 2$)</td>
<td>21.5 ($n = 2$)</td>
</tr>
<tr>
<td>Spring 2009</td>
<td>--- 1 Transfer</td>
<td>2.57</td>
<td>3.42</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>6 Freshmen 4 Transfers</td>
<td>2.87</td>
<td>2.72</td>
<td>1.78</td>
<td>22.5 ($n = 4$)</td>
<td>17.0 ($n = 1$)</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>--- 2 Transfers</td>
<td>2.93</td>
<td>2.48</td>
<td>23.5 ($n = 2$)</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
Appendix IV
Students’ Exit Abilities: BS in Safety Technology

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Mean GPA</th>
<th>Licensure Exam Results</th>
<th>Certification Test Results</th>
<th>Other Standardized Exam Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 – 06</td>
<td>5</td>
<td>2.95</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2006 – 07</td>
<td>14</td>
<td>3.15</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2007 – 08</td>
<td>6</td>
<td>3.13</td>
<td>n/a</td>
<td>GSP</td>
<td>n/a</td>
</tr>
<tr>
<td>2008 – 09</td>
<td>10</td>
<td>2.94</td>
<td>n/a</td>
<td>GSP</td>
<td>n/a</td>
</tr>
<tr>
<td>2009 – 10</td>
<td>10</td>
<td>2.81</td>
<td>n/a</td>
<td>GSP</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Expand table as needed.

There is no passing or failing this test. All students graduating from an ABET accredited program are automatically granted the designation of Graduate Safety Professional, which shortens the time required by several years, in which the student can sit for the CSP (Certified Safety Professional).
### Appendix V
Assessment Summary
Marshall University
Assessment of the Program’s Student Learning Outcomes
5 year summary

#### Component Area/Program/Discipline: BS Safety Technology - Course Learning Objectives

<table>
<thead>
<tr>
<th>Program’s Course Learning Outcomes</th>
<th>Assessment Measures (Tools)</th>
<th>Standards/Benchmark</th>
<th>Results/Analysis</th>
<th>Action Taken to improve the program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipate, recognize evaluate and develop control strategies for hazardous conditions and work practices</td>
<td>Tests and papers and specific projects given in various safety courses</td>
<td>Obtaining at least a 70% minimum students obtaining lower scores will be given opportunity to address issue</td>
<td>Feed back to students as to how well they have performed</td>
<td></td>
</tr>
<tr>
<td>Demonstrate the application of business and risk management concepts</td>
<td>Tests and papers and projects specific to course under study</td>
<td>Obtaining at least a 70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate an understanding of the fundamental aspects of safety, industrial hygiene, environmental science, fire science, hazardous materials, emergency management, ergonomics and/or human factors</td>
<td>Students take a variety of safety courses in these various areas to obtain a degree in field</td>
<td>Passing required courses with a 70% minimum</td>
<td>Failure to achieve at least a 70% in required courses requires students to repeat course</td>
<td>Think about raising standard</td>
</tr>
<tr>
<td>Design &amp; evaluate safety, health and/or environmental programs</td>
<td>Tests &amp; projects required in various courses</td>
<td>70% passing score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply adult learning theory to safety training methodology</td>
<td>Students learn in SFT 460 how to prepare training materials for adult audiences they will find in industry.</td>
<td>70% passing score</td>
<td>Students actively participate in preparing and engaging in practice training</td>
<td>Students are being video taped doing the training to have a portfolio for future use</td>
</tr>
<tr>
<td>Identify and apply applicable standards, regulations and codes</td>
<td>Students are taught code usage in various courses like Fire, Process Management, Law and ergonomics</td>
<td>Students are tested on ability to look up specific applicable codes and laws in given situations depending upon the class. 70%</td>
<td>Students are successful in researching applicable codes in CFR’s as apply to OSHA and fire regulations</td>
<td>More examples could be used</td>
</tr>
<tr>
<td>Conduct accident investigations and analysis</td>
<td>Students take a course in accident investigation and analysis SFT 465 given scenarios on accidents they are assessed in ability to analyze, evaluate and recommend solutions to problem</td>
<td>Passing course with a minimum of 70%</td>
<td>Students demonstrate they possess the basic knowledge and understanding of how to prepare for and investigate an accident through tests, projects and papers</td>
<td></td>
</tr>
<tr>
<td>Apply principles of safety and health in a non-academic setting through an internship, cooperative or supervised experience</td>
<td>All students of Senior level must participate in an internship program under the supervision of a safety professional. This is their capstone project for the BS degree</td>
<td>The standard for this course is devoting 150 hours of time to this project. The grading criteria is pass/fail.</td>
<td>All students to date have been successful at this endeavor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>More contact with employers during the semester</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix VI
### Program Course Enrollment

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Name</th>
<th>Required/Elective/Service</th>
<th>Delivery Method</th>
<th>Location</th>
<th>Year 1 2005-2006</th>
<th>Year 2 2006-2007</th>
<th>Year 3 2007-2008</th>
<th>Year 4 2008-2009</th>
<th>Year 5 2009-2010</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Su</td>
<td>Fa</td>
<td>Sp</td>
<td>Su</td>
<td>Fa</td>
</tr>
<tr>
<td>SFT 235</td>
<td>Intro to Safety</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>33</td>
<td>170</td>
<td>236</td>
<td>32</td>
<td>178</td>
</tr>
<tr>
<td>SFT 340</td>
<td>Industrial Fire Prevention</td>
<td>R</td>
<td>Classroom</td>
<td>C</td>
<td>10</td>
<td></td>
<td>14</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>SFT 372</td>
<td>Safety &amp; Industrial Tech</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>30</td>
<td>25</td>
<td></td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>SFT 373</td>
<td>Principles of Ergonomics</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>11</td>
<td></td>
<td>13</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>SFT 373 L</td>
<td>Prin of Ergo Lab</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>11</td>
<td></td>
<td>13</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>SFT 375</td>
<td>Construction Safety</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>17</td>
<td></td>
<td>25</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>SFT 378</td>
<td>Safety Eval &amp; Measurement</td>
<td>E</td>
<td>Classroom</td>
<td>Campus</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>19</td>
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<tr>
<td>SFT 453</td>
<td>International Safety</td>
<td>E</td>
<td>Classroom</td>
<td>Campus</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SFT 454</td>
<td>Industrial Hygiene</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>10</td>
<td></td>
<td>11</td>
<td></td>
<td>7</td>
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<tr>
<td>SFT 454 L</td>
<td>Industrial Hyg. Lab</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>9</td>
<td></td>
<td>12</td>
<td></td>
<td>7</td>
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<tr>
<td>SFT 458</td>
<td>Hospital Safety</td>
<td>E</td>
<td>Classroom</td>
<td>Campus</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 460</td>
<td>Sfty Training Methods</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>5</td>
<td></td>
<td>14</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>SFT 465</td>
<td>Incident Invest Techniques</td>
<td>R</td>
<td>Classroom</td>
<td>Campus</td>
<td>10</td>
<td></td>
<td>6</td>
<td></td>
<td>20</td>
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<tr>
<td>SFT 482</td>
<td>Intro to Mining</td>
<td>E</td>
<td>Classroom</td>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SFT 482</td>
<td>Virtual Reality Apps/SFT</td>
<td>E</td>
<td>Classroom</td>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SFT 485</td>
<td>Independent Study</td>
<td>E</td>
<td>Classroom</td>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Delivery</td>
<td>Location</td>
<td>Classroom</td>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 489</td>
<td>Process Sfty Mgmt</td>
<td>R</td>
<td>Campus</td>
<td>19</td>
<td>7</td>
<td>8</td>
<td>14</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SFT 490</td>
<td>Safety Internship</td>
<td>R</td>
<td>Off Campus</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SFT 491</td>
<td>Wk Shop ASP/CSP</td>
<td>E</td>
<td>Classroom</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 491</td>
<td>Wk Shop HazWopper</td>
<td>E</td>
<td>Classroom</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 497</td>
<td>Occ Safety &amp; Health Program</td>
<td>E</td>
<td>Classroom</td>
<td>17</td>
<td>13</td>
<td>16</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>SFT 498</td>
<td>Envir Saf &amp; Health Legis</td>
<td>R</td>
<td>Classroom</td>
<td>14</td>
<td>9</td>
<td>14</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT 499</td>
<td>Occ Saf Prog Mgmt</td>
<td>R</td>
<td>Classroom</td>
<td>13</td>
<td>3</td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Indicate all program and service courses. Please include all special topics courses offered as well as independent studies. When listing Independent studies, please list the number of independent study students enrolled, but DO NOT include individual names or the titles of the independent studies. Please use the following codes:

**Required/Elective:** Required = R; Elective = E; Service = S (Please indicate all that apply; e.g. E + S, if the course is both an elective and a service course.

**Delivery Method:** Traditional = Td, Online = O, Hybrid = H

**Location:** Huntington, South Charleston, Point Pleasant, etc.

*Expand table as needed.*
## Appendix VII
### Program Enrollment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New Students Admitted</td>
<td>7</td>
<td>8</td>
<td>14</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Principal Majors Enrolled</td>
<td>51</td>
<td>56</td>
<td>63</td>
<td>78</td>
<td>79</td>
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<tr>
<td>Minors</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Grand Total of Students Enrolled in the Program</strong></td>
<td><strong>51</strong></td>
<td><strong>56</strong></td>
<td><strong>63</strong></td>
<td><strong>78</strong></td>
<td><strong>79</strong></td>
</tr>
<tr>
<td>Graduates of the program</td>
<td>5</td>
<td>14</td>
<td>6</td>
<td>10</td>
<td>10</td>
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</tbody>
</table>
Figure 1. Trend Line for Total Enrollment and Program Graduates: BS in Safety Technology
### Appendix VIII

#### Job and Graduate School Placement Rates

<table>
<thead>
<tr>
<th>Year</th>
<th># of graduates employed in major field</th>
<th># of graduates employed in related fields</th>
<th># of graduates employed outside field</th>
<th># of graduates accepted to Graduate Programs</th>
<th># of graduates not accounted for</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 (10)</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2009 (10)</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2008 (6)</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2007 (14)</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>2006 (5)</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Five –Year Total 45</td>
<td>14</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>24</td>
</tr>
</tbody>
</table>
April 5, 2010

Dr. Allan Stern, Chair  
Safety Technology  
CITE

Dear Allan:

I have completed my evaluation of the BS in Safety Technology’s assessment of student learning. This letter will provide my general comments and suggestions for improvement. Although the scoring rubric we used to evaluate assessment reports is attached, I will not include numerical ratings in this letter. The reason for this is that we used the attached rubric is still relatively new and, as you will see, it raises the bar for what is considered excellent assessment. However, I ask that you use it for formative purposes to help improve your assessment plan. We also would appreciate your comments concerning this rubric.

From reading your assessment report, I understand that you are completely revising your assessment program, including your outcomes. However, since you included old outcomes (as well as new) and old assessment measures in your report, I included both in the review. Your new outcomes are excellent and you’ve done a good job with curriculum mapping. I would be happy to meet with you after Assessment Day to assist with next steps in your new process. I also appreciate the survey you send to graduates, which will be a nice supplement to the direct assessment completed. Also, I believe your Advisory Committee is invaluable in providing data to ensure continuous improvement and currency in the program.

Please see the attached rubric. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds
Director of Academic Assessment

C: Dr. Betsy Dulin, Dean, CITE
Dr. Allan Stern, Division Chair  
Applied Sciences and Technology  
CITE

Dear Allan:

The University Assessment Committee and I have completed our evaluation of the BS in Safety Technology’s assessment of student learning. This letter will provide my general comments and suggestions for improvement. Although the scoring rubric we used to evaluate assessment reports is attached, I will not include numerical ratings in this letter. The reason for this is that we used the attached rubric for the first time this year and, as you will see, it has changed considerably from the ones used in previous years. It raises the bar for what is considered excellent assessment considerably and, since it was not shared with programs before this assessment cycle, I’m not comfortable using it to give programs a formal rating this year. However, I ask that you use it for formative purposes to help improve your assessment plan. We also would appreciate your comments concerning this new rubric.

University Assessment Committee reviewers and I agree that your program’s student learning outcomes are comprehensive, most are measurable (how do you measure “understanding?”), and span higher orders of learning. I am glad to see that you are developing rubrics for assessment measures. Rubrics will allow you to analyze strengths and weaknesses for each learning outcome, which should help to inform improvement. Student portfolios also are excellent ways to compile authentic measures to assess student learning. I also like your outcome/course matrix on the last page of your report. This is an excellent way to identify in which courses students are given opportunities to master outcomes and in which courses they are being assessed.

The project based rubrics you are in the process of developing will be good complements to other types of assessments, e.g. satisfaction surveys, exams, and internship evaluations. Benchmarks would be the mean acceptable score on each component of each scoring rubric across students. So, if you use a 4-point scale, with 4 being “exceeds expectations” and 3 being “meets expectations,” you might want to see a mean of 3.5 in each area of the scoring rubrics across students. Then, you would report results for each assessment in each area and should be able to aggregate results to see if there are trends in the data that will suggest program improvement. I suggest assessing only ¼ of the outcomes each year to allow for an in-depth assessment of each outcome. Assessing student learning outcomes on a 4-year rotating basis will allow you to do a more in-depth assessment that will inform improvement, each year. Also, you may want to consider using questions from your satisfaction surveys that directly relate to each outcome, so that you can supplement direct assessment of each outcome with indirect assessment.
Overall, you have an excellent plan and I look forward to seeing results in coming years! Please see the attached rubric and letter to Deans, Chairs, and Faculty detailing general suggestions for an effective assessment program. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds
Director of Academic Assessment

C: Dr. Betsy Dulin, Dean, CITE
April 1, 2008

Dr. Allan Stern, Division Chair
Safety Technology
CITE

Dear Allan,

The University Assessment Committee and I have completed our evaluation of the annual program assessment report for the BS in Safety Technology. This letter will provide feedback in the following manner. First, I will comment generally on each section of your report. Second, I will rate the following areas of the report on a four point scale (0 – 3, with 3 being the highest rating): student learning outcomes, assessment measures, and the feedback loop. Although I considered feedback from committee members, I made the final decision on ratings for all reports submitted. Third, I will offer suggestions for your consideration as you plan your assessment for the 2008-2009 academic year. Fourth, I will include my evaluation using the Primary Traits Analysis rubric and will include reviewers’ comments for your information.

General Comments

It is obvious from your report that you have a strong program, which meets the accreditation standards of ABET. You make use of an Advisory Council to make sure your program offers current, rigorous content to prepare students for careers in Safety Technology. I also applaud your use of a portfolio, which is evaluated by external reviewers, to assess student learning in your program.

The student learning outcomes listed in your chart (Illustration #1) are well written, describe student behaviors, and appropriately focus on higher levels of thinking, e.g. analysis, synthesis, and evaluation. My only concern is that, in most cases, each outcome is covered and measured in only one course in your curriculum. This results in 35 student learning outcomes, with more still to be developed. I suggest that, as a faculty, you decide on fewer, but perhaps broader, student learning outcomes that are program specific. I would expect that each student learning outcome would be covered in a number of courses and that many courses would cover more than one.

The assessment measures you have listed are all appropriate ways to assess student learning. As you refine these measures (and classroom assessments, especially in combination, can be used to assess program level outcomes), I suggest that you develop detailed scoring rubrics. These rubrics will allow you to conduct a more in-depth analysis by looking at components of outcomes. For example, written reports may be evaluated in terms of content coverage, content analysis using appropriate
forms of evidence, writing style, etc. Your rubric would assess each of these areas. If, for example, you find that overall student performance is weakest in the area of content analysis, you would put more emphasis on this skill during classroom instruction.

Ratings for Student Learning Outcomes, Assessment Measures, and the Feedback Loop

Student Learning Outcomes = 3. This rating was given because your student learning outcomes are comprehensive, measurable, support Marshall's educational goals, and span multiple learning domains. However, they are course specific and I would argue that you have too many to adequately measure all of them. I strongly suggest that you reduce the number of outcomes you currently have.

Assessment Measures = 3. This rating was given because your measures emphasize direct assessment of student learning (although I recommend supplementing these with some indirect measures), they stress higher order learning and allow performance to be gauged over time. I encourage you to develop detailed scoring rubrics that will allow you to identify students' specific strengths and weaknesses.

Feedback Loop = 0. This rating was given because, although data from portfolios identified a communication weakness between Marshall University faculty and internship coordinators, no results of student learning outcomes or actions taken were reported.

Suggestions to Consider as you plan your assessment strategies for the 2008-2009 academic year

I think you have done a wonderful job of articulating student learning outcomes for the courses in your program. These outcomes are clearly written and stress higher order learning. During the coming academic year, I recommend that you do the following things to strengthen your assessment program:

1. As a faculty, work to condense these outcomes to a manageable number. Each outcome should be covered and assessed across several courses.
2. Determine which assessment measures will be used to evaluate each outcome. We recommend at least two direct measures and one indirect measure. Indirect measures are typically students' opinions about their mastery of certain outcomes. This information can be obtained through satisfaction surveys and focus groups.
3. Develop detailed scoring rubrics that will allow you to conduct in-depth analyses of each outcome by analyzing mean results on outcome component areas.

One caution I have is that, as you begin to collect assessment data, you not try to do everything at once. It is perfectly acceptable and encouraged to assess only a portion of your student learning outcomes each year. So, you may choose to do an in-depth assessment of the first two outcomes during year 1. If this is done using several assessment measures with detailed rubrics, you will be able to collect detailed data regarding the outcomes. These data should allow you to identify specific strengths and weaknesses regarding student learning (and hence, your program). Changes to strengthen these areas of learning can be implemented the following year, while you assess two more outcomes. This will allow you to reassess all outcomes on a three-four year rotation and will give you sufficient time to allow curricular modifications to have an effect before the next assessment.

I appreciate the work you are doing to make your assessment stronger. If I can be of additional help, please do not hesitate to contact me at 62987 or at reynoldm@marshall.edu.
BS in Safety Technology

Sincerely,

Mary E. Reynolds
Interim Director of Assessment

C: Dr. Anthony Szwilski, Interim Dean, CITE
To: Dr. Allan Stern, Chair, Safety Technology
From: Bob Edmunds, Coordinator for Program Review and Assessment
Date: June 14, 2006

Yearly Assessment Report for: BS Safety Technology

Thank you for submitting the Yearly Assessment Report for the program. Please use the information in this report to guide your assessment activities during AY 2006-2007.

The Yearly Assessment Report for documenting AY 2005-2006 assessment activities is due by October 3, 2006. If the program is scheduled for a program review during the 2006-7 academic year, the Program Review will suffice as the documentation of assessment activities and no separate report will be due.

Reviewer summary of yearly assessment report:
What follows is a brief critique of the report you submitted for the academic year 2004-2005. In most cases the report has been reviewed by members of the University Assessment Committee.

<table>
<thead>
<tr>
<th>Yearly Assessment Report Critique</th>
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<tbody>
<tr>
<td>I. a. Program goals:</td>
</tr>
<tr>
<td>b. Learning outcomes and data collection:</td>
</tr>
<tr>
<td>c. Results:</td>
</tr>
<tr>
<td>II. BOT Initiative #3:</td>
</tr>
<tr>
<td>III. Plans for current year:</td>
</tr>
<tr>
<td>IV. Assistance needed:</td>
</tr>
<tr>
<td>V. Lessons learned:</td>
</tr>
</tbody>
</table>

Review of the Assessment Summary Chart “Marshall University: Assessment of Student Outcomes.”

This chart will help the program and the University Assessment Committee monitor a program’s patterns of evidence. Please remember that a program does not have to assess every outcome every year; however, within a 3-4 year period of time all program objectives must be evaluated, results analyzed, and actions taken (feedback loop) documented.

The program provided an assessment summary chart outlining the program objectives. Benchmarks were stated, but no actual data were reported. No specific actions were given. The program should begin to show evidence in the report on the data collected. It will be useful for ABET reports and program assessment reports if the data are included.
Efficacy of Assessment:

Programs are evaluated in terms of the development of measurable learning outcomes, the use of viable assessment measures, and the implementation of an effective feedback loop. The current report has been evaluated based on these categories. This year the report shows program scores from 2000-2001 to the present.

<table>
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<tbody>
<tr>
<td>I. Learning Outcomes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>II. Assessment Measures</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>III. Feedback Loop</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total Overall Score</td>
<td>2</td>
<td>3</td>
<td>2.7</td>
<td>2.7</td>
<td>6</td>
</tr>
<tr>
<td>Level of Implementation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
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Score Ranges

- Score Ranges 0-3 in each of the three categories

<table>
<thead>
<tr>
<th>Levels of Implementation</th>
<th>Efficacy of Assessment</th>
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<tbody>
<tr>
<td>A total overall score</td>
<td>Level 1: the program is in the beginning stages of its assessment of student academic achievement</td>
</tr>
<tr>
<td>between 0 and 3 indicates</td>
<td></td>
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<tr>
<td>A total overall score</td>
<td>Level 2: the program is making progress toward implementing a viable assessment program</td>
</tr>
<tr>
<td>between 4 and 6 indicates</td>
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<tr>
<td>A total overall score</td>
<td>Level 3: the program is in the maturing stages of continuous improvement of student academic achievement</td>
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<td>between 7 and 9 indicates</td>
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Interpretation:

With the implementation of the ABET program objectives, the program will be in compliance with the accrediting organization. The program now needs to collect and report data. What are the competency levels of the students in the program and when appropriate, what actions have been or will be taken by the faculty involved.

Recommendations:

The program needs to report and analyze the data collected as it reviews the course portfolios. The program should provide evidence that the analyzed data are being used in the decision making process.
General Comments:

The program has adopted the ABET guidelines. In the next few years, the program will need to show evidence that the feedback loop has been closed and that the program is utilizing the assessment data.

Thanks so much for continuing to aid Marshall in its ongoing assessment efforts.

Enclosure