Program Review

Bachelor of Science in Safety Technology

College of Information Technology and Engineering

October 2015

MARSHALL UNIVERSITY
Program Review
Marshall University

Date: October 15, 2015

Program: Bachelor of Science in Safety Technology
Degree and Title

Date of Last Review: Academic Year 2010 – 2011

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.)

Recommendation: Signature of person preparing the report:

Recommendation: Signature of Program Chair:

Recommendation: Signature of Academic Dean:

Recommendation: Signature of Chair, Academic Planning Corporation (post-associate pgms only):

Recommendation: Signature of Chair, Faculty Senate Chair, Graduate Council:

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

Recommendation: Signature of the President:

Recommendation: Signature of Chair, Board of Governors:

Date: 10/15/15
Date: 2/8/16
Date: 4/18/16
Date: 4/3/16
Date: 4/13/16
College/School Dean’s Recommendation

Deans, please indicate your recommendation and submit the rationale.

Recommendation:
Continuation of the program at the current level of activity.

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

Assessment: The Safety Technology student’s performance in the ABET accredited program is continuously and effectively monitored. The students are provided with advice regarding the curriculum and career opportunities by experienced faculty and dedicated College and University administration, ensuring that B.S. Safety Technology program’s educational objectives are being attained. This report demonstrates that the B.S. Safety Technology program’s educational objectives are aligned with both the needs of its constituents and the mission of Marshall University. Effective interaction with and quality feedback from students, Advisory Board and employers are proving that the program’s educational objectives are very relevant to the occupational safety profession, and are being achieved. Of particular note is the Safety Technology Advisory Board’s significant investment in the program and interest in undertaking initiatives, such as organizing the Marshall Safety Conference on September 17, 2015.

Resources: In May 2015, the Division of Applied Science and Technology moved into the Weisberg Applied Engineering Complex (WAEC). The safety technology students will take classes in new high-tech classrooms and laboratories. Students have immediate access to faculty, Division and College administrative offices. They also have access to new computers and software in convenient collaborative areas, outside faculty offices.

Students: Enrollments have decreased a little over the past three years (Appendix VI) influenced to some extent by the nation’s economy. A slow increase is expected from 2015-2016. The new WAEC is a significant resource to attract new students in the B.S. Safety Technology program. There continues to be significant employment opportunities available for graduates of the safety technology program, a strength of the program: indicated in Appendix VII.

Based on the stability of the program and its ability to produce the graduates needed for local, regional and national markets; and with all the support provided from the local industries, I would like to recommend continuation of the program at the current level of activity.

Signature of the Dean

10/20/2015
Date
Marshall University
Program Review

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

Program: Bachelor of Science in Safety Technology
College: Information Technology and Engineering
Date of Last Review: Academic Year 2010 – 2011

I. CONSISTENCY WITH UNIVERSITY MISSION

The B.S. Safety Technology program’s educational objectives were developed in accordance with the mission of Marshall University, and in particular, these specific applications of the Marshall University Mission Statement played a major role in the Safety Technology program’s 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 B.S. 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 B.S. 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, which is designed to achieve these objectives, prepares students for entry-level positions in industrial, commercial, governmental and service organizations. 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. “Safety Technology” is a comprehensive term encompassing the prevention of accidents, illnesses, fires, explosions and other events of potential risk to people, property and the environment. Safety Technology requires a broad educational foundation in a variety of functional disciplines including construction safety, ergonomics and human
factors, fire prevention, incident investigation, industrial hygiene, process safety, safety program development and management, and worker training.
The need for occupational safety and health professionals continues to grow as a result of federal and state legislation governing safety and health in the workplace and an increase in public awareness of occupational safety and health issues. The Safety Technology Program provides graduates with the competencies to fulfill societal needs.

II. Accreditation Information

1. Name of Accrediting Organization:

   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

2. Date of Most Recent Self-Study and Accreditation visit:

   November, 2010

3. Accreditation Status:

   The program received regular accreditation, which is good for six years.

4. Accrediting Organization’s Report:

   The most recent (2010-2011) ABET accreditation report can be found in Appendix IX. As indicated in the accreditation report, the findings of the visit identified one program weakness in the area of Continuous Improvement. Below is the response that we provided in the 2015 ABET Self-Study Report.

Marshall University’s Response
The Program Weakness (associated with Criterion 4, Continuous Improvement) as identified in the Draft Statement was not disputed. The response reiterated the goal of the Safety Technology program faculty and leadership to address this weakness. Since this response, efforts of the Safety Program to satisfy this goal include:

   a. Faculty have attended ABET workshops on continuous improvement methods and assessment.
   b. Faculty have incorporated basic Rubric Matrices for selected courses to achieve better cohesiveness with general ABET student outcomes A to K and safety specific student outcomes 1 to 8.
   c. The faculty reviewed each course offered in the degree program to make clear the course learning objectives and student outcomes A to K support the Program Educational Objectives.
d. The program has improved and expanded the use of student self-evaluation exit examination results to better correlate to the A to K Program Educational Objectives.
e. Results from student exit interview polls have been used more effectively.
f. Faculty have been cognizant of the need to make available materials for the ABET campus visits as evidence of continuous improvement of the program and achievement of the safety program’s educational objectives.
g. The program reevaluated the process and timeline for Ongoing Assessments.

III. Adequacy of the Program

1. 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. Four faculty members hold doctoral degrees from accredited universities and the remaining one possesses a Master’s degree along with significant industrial world experience. One faculty member is a registered engineer, one holds Certified Professional Ergonomist designation, 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 published in professional journals during the past five years.

2. 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 least 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 and Exit Abilities of past five years of graduates: Appendix II shows that our last five years of graduates entered the program with high school GPAs that ranged from yearly means of 2.97 to 3.45. The yearly mean composite ACT scores ranged from 20.4 to 21.7. Yearly mean SAT Verbal scores ranged from 423.3 to 550, SAT Quantitative scores from 457.7 to 530, and SAT Analytic Writing scores from 415 to 500. Appendix III shows that these graduates compiled respectable GPAs during their undergraduate program, with yearly means ranging from 2.87 to 3.05.
3. **Assessment Information:**

   a. Please refer to Appendix IV for a summary of our program’s assessment of student learning.

   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 improve on closing the feedback loop for all assessment points. The timeline for detailed assessment activity is located in Appendix IV.

   d. **Graduate Satisfaction:**

   All students exiting the program are interviewed by our Advisory Board 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, and/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. Please refer to Appendix VIII for letters from the Office of Assessment providing feedback regarding the program’s assessment of student learning.

4. **Previous Reviews:** At its meeting on April 28, 2011, the Marshall University Board of Governors recommended that the Bachelor of Science in Safety Technology continue at its current level of activity.

5. **Identify weaknesses and deficiencies** noted in the last program review and provide information regarding the status of improvements implemented or accomplished.

   In its last program review, submitted in academic year 2010 – 2011, the Bachelor of Science in Safety Technology identified the following weaknesses. These are transcribed from that report.
“Weaknesses:

While graduate safety student enrollment has fallen from past years, which is most likely related to the changes in the economy, present enrollment seems to be steady. According to the Office of Institutional Research, the program has approximately 42 declared majors within the department. It has been noted that student enrollment increases in poor economic times and decreases in good economic times. Individuals do not seek job retraining when they have good paying positions. However, there is always a need for safety professionals. Better advertisement of what the program can offer needs to be done. The other major weakness in the program is still the low faculty salaries compared to other universities with similar programs. It is important to provide competitive salaries to keep productive faculty. Salaries are nothing the program can do anything about.”

6. Current Strengths/Weaknesses:

Strengths: Dedicated faculty with an effective balance of academic and industry experience. Good industry support: Of particular note is the Safety Technology Advisory Board’s significant investment in the program and interest in undertaking initiatives, such as organizing the Marshall Safety Conference on September 17, 2015.

In May 2015, the Division of Applied Science and Technology moved into the Weisberg Applied Engineering Complex, a significant investment of about $56 million. The safety technology students now take classes in new high-tech classrooms and laboratories: funding of about $300,000 is being provided for new equipment. Students have immediate access to faculty, Division and College administrative offices. They will also have access to new computers and software in convenient collaborative areas outside faculty offices. Faculty collaborate with other departments of the University, reputed organizations in the tri-state area or at Universities in other states, which provide placement opportunities for students.

Weaknesses: The continuous assessment program needs to be enhanced, such as closing the feedback loop by returning classwork to students in a timely manner and discussing the results. Additionally, program outcomes need to be cross-checked with specific test questions and projects; and the student data analyzed to identify weaknesses for program improvement.

The safety technology program is increasing focus on assessment activities. For example, faculty are incorporating basic Rubric Matrices for more selected courses to achieve better cohesiveness, as with general ABET student outcomes A to K and safety specific student outcomes 1 to 8.
IV. Viability of the Program

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

2. Off-Campus Classes: None

3. Online Courses: None

4. Service Courses:

   SFT235 – Introduction to Safety, is required for Pre-Engineering in CITE and Physical Education majors in College of Education.

5. Program Course Enrollment:

   Appendix V shows the trends and the specifics on course enrollments. It will be noted that most courses showed stable enrollment trends during recent years.

6. Program Enrollment:

   If you turn to Appendix VI it will be noted that the number of students entering the program has slightly decreased over the past two years, which is most likely related to the changes in the economy; present enrollment seems to be steady. The total number of students enrolled in the program shows a peak ending with 82 students enrolled during 2011-12.

   In response to the slight declining enrollment, the program has increased its recruitment activities. For example, over the past two years, the program has been actively participating the Green&White Day Showcase, Summer Minority Initiative, INTO Mexican Student Visit, Fairland High School Science Fair, and etc.

   In addition, the program has improved its entry-level course as a way to attract transfer students and students with undecided major. For example, in 2014, SFT235 was revised to obtain CT designation, which appeals to a wide range of first year and second year students.

   In the future, the program and the faculty plan to continue these efforts. For example, the program plans to increase its recruitment efforts among INTO students.
7. Enrollment Projections:

Based on current trends, the enrollment figures indicate a slight decrease during recent years. Nevertheless, with our division moving into the new Engineering building and improvement of our faculty, we anticipate increased enrollment in the coming years because of the economic downturn in WV. In fact, recent statistics in fall 2015 show 78 majors, which is an increase of 14 enrollments over the previous academic year. We anticipate the trend will continue even when the economy improves. The college-wide analysis has indicated that a strong component of Safety majors came from transfer students from the Engineering or pre-Engineering majors, regardless of the economic situation. If the economy of the state were to improve suddenly, we anticipate the rapid expansion of the Engineering program, which would in turn increase the enrollment in Safety majors.

V. Necessity of the Program:

1. Advisory Committee:

The interests of alumni and employers are uniquely represented by the Safety Technology Advisory Board. The Advisory Board is a consultative panel which

- Helps establish Safety Technology Program objectives, learning outcomes and provides input into the planning process.
- Assists in assessing program effectiveness and suggests mechanisms for continuous program improvement.
- Facilitates acquisition and enhancement of the resources required to maintain an effective Safety Technology program.
- Links the Safety Technology Program to its external constituencies. For example, the Board of Advisors and safety program faculty organized a safety conference on the Marshall University campus, September 17, 2015. Overall, the Safety Conference was a great success. The conference attracted over a hundred attendees, including students and established safety professionals. The students enjoyed and benefited the learning and networking opportunity. The industry representatives also expressed their interest to sponsor future conferences and to further support the Safety Technology program at Marshall University.

Table 2.1: Safety Technology Program Advisory Board Members, 2014-2015

<table>
<thead>
<tr>
<th>Clark McCoy, CSP*</th>
<th>Columbia Gas Transmission HSE Program Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aaron Price</td>
<td>Patriot Coal Safety Manager</td>
</tr>
<tr>
<td>Dave Stacy</td>
<td>USI</td>
</tr>
</tbody>
</table>
Alicia L Cunningham  
Brickstreet Insurance  
Safety & Loss Control Specialist

Michael S. Alley  
Catlettsburg Refining, LLC  
Marathon Petroleum Company  
Environmental, Safety & Security Manager

Randy Keller  
Dow Chemical  
PSM Subject Expert

David Casto, CSHM, MS, ARM  
BrickStreet Insurance  
Business Director, Coal Accounts

Jered Hill*  
Pickering and Associates, Principal

H. Toney Stroud, Esq. (Chair)  
Brickstreet Insurance  
Counsel

Richard Jeffrey  
United States Department of Labor  
Occupational Safety and Health Administration  
Compliance Assistance Specialist

Gregory A. Toman, CSP  
Elementis Specialties Inc.  
Environmental, Health & Safety Manager

John J. Rosiek, Jr.  
National Mine Health and Safety Academy  
Manager, Instructional Services Dept.

Shreda Gorum  
USACE Huntington District  
CSHO Chief

Kurt Dailey  
ICL-IP  
HSE Director

Josh Parsons*, CSP  
Exco Resources

Mathew Williamson*  
CSX, District HSE Manager

*Graduate of the B.S. Safety Technology Program

2. **Graduates:**  
Students graduating from the B.S. program have an excellent placement rate (Appendix VII). 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 during their Senior year. Salaries start in the mid 30’s and would vary depending upon location. Some companies offer “perks” that include expense accounts or a company vehicle.
3. **Job Placement:**
Students learn of professional positions in several ways. First, companies having openings 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.

VI. **RESOURCE DEVELOPMENT (If applicable)** Not applicable
Appendix I
Faculty Data Sheet

Name: _____ Clair J. Roudebush _______ Rank: _____ Associate Professor _____

Status (Check one):  Full-time___ X ___ Adjunct _____ Current MU Faculty:  Yes ___ X ___ No ___

Highest Degree Earned: ___ PhD ___ Date Degree Received: ___ 1987 ___

Conferring Institution: ___ Texas A&M University ___

Area of Degree Specialization: ___ Engineering Technology/Safety Education ___

Professional Registration/Licensure: ___ CSP ___

Field of Registration/Licensure: ___ Safety ___

Agency: ___ BCSP ___

Number of years at Marshall (can be in either teaching or administration) ___ 13.5 ___

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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<tbody>
<tr>
<td>2015 Spring</td>
<td>SFT486</td>
<td>Independent Study</td>
<td>1</td>
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<tr>
<td>2015 Spring</td>
<td>SFT498</td>
<td>Envir Safety &amp; Health Legis</td>
<td>15</td>
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<tr>
<td>2015 Spring</td>
<td>SFT499</td>
<td>Occup Safety Prog Mgmt</td>
<td>10</td>
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<td>2014 Fall</td>
<td>SFT340</td>
<td>Indus Fire Prevent</td>
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<tr>
<td>2014 Fall</td>
<td>SFT497</td>
<td>Occup Safety&amp;Health Prog</td>
<td>9</td>
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<td>2014 Spring</td>
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<td>Envir Safety &amp; Health Legis</td>
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<td>Occup Safety Prog Mgmt</td>
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<tr>
<td>2013 Fall</td>
<td>SFT340</td>
<td>Indus Fire Prevent</td>
<td>16</td>
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<tr>
<td>2013 Fall</td>
<td>SFT497</td>
<td>Occup Safety&amp;Health Prog</td>
<td>10</td>
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</tbody>
</table>

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

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

1) Scholarship/Research

2) Service
3) 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.
4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
Appendix I
Faculty Data Sheet

Name: Anthony Szwilski
Rank: Professor

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

Highest Degree Earned: PhD Date Degree Received: 1975

Conferring Institution: University of Nottingham, England

Area of Degree Specialization: Geomechanics

Professional Registration/Licensure: P.E., C.Eng., Eur Ing.

Field of Registration/Licensure: Engineering

Agency: _______________________

Number of years at Marshall (can be in either teaching or administration) 21

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)

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<thead>
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<th>Title</th>
<th>Enrollment</th>
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<td>2015 Spring</td>
<td>SFT235</td>
<td>Introduction to Safety</td>
<td>30</td>
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<td>2015 Spring</td>
<td>SFT482</td>
<td>SpTp: Intro to Mine Safety</td>
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<td>Introduction to Safety</td>
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<td>2014 Fall</td>
<td>SFT490</td>
<td>Safety Internship</td>
<td>2</td>
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<td>2014 Spring</td>
<td>SFT235</td>
<td>Introduction to Safety</td>
<td>16</td>
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</table>

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

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

1) Scholarship/Research
2009 – 2012: Co-Principal Investigator, Cyberinfrastructure for Transformational Scientific Discovery, $1.35 million, EPSCoR-NSF.
2009-2012: Principal Investigator, 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.

2) Service
3) 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.

4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
Appendix I
Faculty Data Sheet

Name: _____ James McIntosh____________________  Rank: ___ Associate Professor_____  
Status (Check one):  Full-time X  Adjunct_____  Current MU Faculty: Yes X  No ___
Highest Degree Earned: _____ MSE___________  Date Degree Received: ______ 1987___
Conferring Institution: _____ WVU__________________________________________
Area of Degree Specialization: _____IE/Occupational Health&Safety__________________________
Professional Registration/Licensure: _____ CIH, CSP _________________________
Field of Registration /Licensure: _____ Industrial Hygiene, Safety________________________
Agency: ________________ BCSP________________________________________________
Number of years at Marshall (can be in either teaching or administration) ____ 11 ____

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)

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<td>SFT372</td>
<td>Safety &amp; Industrial Tech</td>
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<td>2015 Spring</td>
<td>SFT465</td>
<td>Incident Investigation Tech</td>
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<td>SFT375</td>
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<tr>
<td>2014 Fall</td>
<td>SFT454</td>
<td>Industrial Hygiene I</td>
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<td>2014 Fall</td>
<td>SFT454L</td>
<td>Enviro Prog/Sampling Lab</td>
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<tr>
<td>2014 Spring</td>
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<td>Safety &amp; Industrial Tech</td>
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<tr>
<td>2014 Spring</td>
<td>SFT235</td>
<td>Intro to Safety</td>
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NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.
For each of the following sections, list only events during the period of this review and begin with the most recent activities.

1) Scholarship/Research
   • Jefferies, R and McIntosh, JD WV “Current OSHA Issues in Cemeteries and Funeral Homes”. Cemeteries and Funeral Directors Association, Huntington, WV.
   • 2013 - Present: Develop Site safety initiatives for BrickStreet Insurance. Bucks for Brains Research Grant, $300,000.

2) Service
   • Marshall University: Budget and Academic Policy Committees (chair in 2012)
   • NASA Consortium Fellowship Committee,
   • CITE Personnel committee (chair in 2015)
   • Manage BrickStreet Safety Technology Scholarship.
   • Manage Safety Technology Internship Program.
   • ANSI standards (Z9.9, Z590, A10, and Respiratory Protection- sub committees).

3) 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.
4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
Appendix I
Faculty Data Sheet

Name: ______ Jian Liu ____________ Rank: ____Associate Professor____

Status (Check one): Full-time__X___ Adjunct _____ Current MU Faculty: Yes __X__ No ___

Highest Degree Earned: ______PhD_________ Date Degree Received: _____2008____

Conferring Institution: __________Virginia Tech _____________________________________

Area of Degree Specialization: ____Industrial Engineering __________________________

Professional Registration/Licensure: ______CPE ______________________________________

Field of Registration/Licensure: ________Ergonomics _________________________________

Agency: ___Board of Certification in Professional Ergonomics __________________________

Number of years at Marshall (can be in either teaching or administration) _______2.5___

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)

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<th>Title</th>
<th>Enrollment</th>
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<tr>
<td>2015 Spring</td>
<td>FYS100</td>
<td>First Yr Sem Critical Thinking</td>
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<tr>
<td></td>
<td>SFT373</td>
<td>Prin Ergonomics &amp; Hum Factors</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>SFT373L</td>
<td>Prin of Ergonomics Lab</td>
<td>17</td>
</tr>
<tr>
<td>2014 Fall</td>
<td>FYS100</td>
<td>First Yr Sem Critical Thinking</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>SFT235</td>
<td>Intro to Safety</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>SFT235</td>
<td>Intro to Safety</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>SFT460</td>
<td>Safety Training Methods</td>
<td>23</td>
</tr>
<tr>
<td>2014 Spring</td>
<td>FYS100</td>
<td>First Yr Sem Critical Thinking</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>SFT235</td>
<td>Intro to Safety</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>SFT373</td>
<td>Prin Ergonomics &amp; Hum Factors</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>SFT373L</td>
<td>Prin of Ergonomics Lab</td>
<td>5</td>
</tr>
<tr>
<td>2013 Fall</td>
<td>FYS100</td>
<td>First Yr Sem Critical Thinking</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>SFT235</td>
<td>Intro to Safety</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>SFT378</td>
<td>Safety Eval &amp; Measurement</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>SFT460</td>
<td>Safety Training Methods</td>
<td>13</td>
</tr>
</tbody>
</table>

NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.
For each of the following sections, list only events during the period of this review and begin with the most recent activities.

1) Scholarship/Research
- Summer Research Award, MU ($2,000) Liu, J. (PI, 100%) 2014
- Summer Research Award, MU ($2,000) Liu, J. (PI, 100%) 2013

2) Service
- CITE Website Committee. (2013 - Present).
- MU NASA WV Space Grant Consortium Advisory Committee (2013 - Present).
- CITE Chair Search Committee for Division of Applied Science and Technology (2014).
- CITE Curriculum Committee (2014 - Present).
- MU Distinguished Artists and Scholars Award (DASA) Committee (2014 - Present).
- Executive Council: Member at Large, International Society for Occupational Ergonomics and Safety (ISOES), 2012 – 2013
- Invited to serve as Review Panelist for 2015 NSF Graduate Research Fellowship Program (December, 2014 – February, 2015)
- Invited to serve as International Grant Reviewer for the Tier 1 Grant Call at National Technological University, Singapore (August, 2013)
- Session Chair (Biomechanics Session) of 2013 Industrial and Systems Engineering Research Conference (ISERC 2013), Human Factor and Ergonomics track, San Juan, Puerto Rico, 5/18-5/21, 2013
- Session Chair (Session 1: Biomechanics and Injury Risk; Session 2: Occupational Ergonomics) of 2014 Industrial and Systems Engineering Research Conference (ISERC 2014), Human Factors and Ergonomics Track, Montreal, Canada, 5/31-6/4, 2014
3) 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.
   - Senior Member of Institute of Industrial Engineers
   - Professional Member of American Society of Safety Engineers
   - Member of Human Factors and Ergonomics Society

4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
Appendix I
Faculty Data Sheet

Name: David Allan Stern  Rank: Professor

Status (Check one): Full-time__X__  Adjunct_____  Current MU Faculty: Yes ___  No __X__

Highest Degree Earned: ____PhD_________  Date Degree Received: ___1977___

Conferring Institution: ______Texas A&M University_____________________

Area of Degree Specialization: ______Industrial Education_______________________

Professional Registration/Licensure: ___________ __________

Field of Registration/Licensure: Engineering________________________

Agency: ___________________________________________________________________

Number of years at Marshall (can be in either teaching or administration) _____25____

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>2014 Spring</td>
<td>SFT235</td>
<td>Introduction to Safety</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>SFT490</td>
<td>Safety Internship</td>
<td>7</td>
</tr>
<tr>
<td>2013 Fall</td>
<td>SFT235</td>
<td>Introduction to Safety</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>SFT235</td>
<td>Introduction to Safety</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>SFT490</td>
<td>Safety Internship</td>
<td>7</td>
</tr>
</tbody>
</table>

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

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

Retired in Dec 2014
Appendix I
Faculty Data Sheet

Name: ________ Tony Stroud ___________ Rank: ________ Instructor ________

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

Highest Degree Earned: __________________________ Date Degree Received: _________________

Conferring Institution: ________________________________________________________________

Area of Degree Specialization: ________ Worker’s compensation __________________________

Professional Registration/Licensure: _____________________________________________________

Field of Registration /Licensure: _________________________________________________________

Agency: ___________________________________________________________________________

Number of years at Marshall (can be in either teaching or administration) ________

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>2015/Spring</td>
<td>SFT483</td>
<td>Special Topic: Worker’s Compensation</td>
<td>4</td>
</tr>
<tr>
<td>2014/Spring</td>
<td>SFT483</td>
<td>Special Topic: Worker’s Compensation</td>
<td>19</td>
</tr>
</tbody>
</table>

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

For each of the following sections, list only events during the period of this review and begin with the most
recent activities.
1) Scholarship/Research
2) Service
3) 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.
4) Awards/honors (including invitations to speak in your area of expertise) or special
   recognition.
Appendix I
Faculty Data Sheet

Name: ________ Mike Alley _____________ Rank: ________ Instructor ________

Status (Check one): Full-time_____ Adjunct ___X___ Current MU Faculty: Yes ___Y___ No ___

Highest Degree Earned: __________________________ Date Degree Received: __________________

Conferring Institution: __________________________

Area of Degree Specialization: ______ Process Safety Management____________________

Professional Registration/Licensure: __________________________

Field of Registration/Licensure: __________________________

Agency: __________________________________________

Number of years at Marshall (can be in either teaching or administration) _______

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>2014 Fall</td>
<td>SFT489</td>
<td>Process Safety Management</td>
<td>23</td>
</tr>
<tr>
<td>2013 Fall</td>
<td>SFT489</td>
<td>Process Safety Management</td>
<td>18</td>
</tr>
<tr>
<td>2012 Fall</td>
<td>SFT489</td>
<td>Process Safety Management</td>
<td>14</td>
</tr>
</tbody>
</table>

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

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

1) Scholarship/Research
2) Service
3) 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.
4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
### Appendix Ia
Teaching Assistant Data Sheet

<table>
<thead>
<tr>
<th>GTA Name</th>
<th>Course No.</th>
<th>Course Name</th>
<th>Year 1 2010-2011</th>
<th>Year 2 2011-2012</th>
<th>Year 3 2012-2013</th>
<th>Year 4 2013-2014</th>
<th>Year 5 2014-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td>Su Fa Sp</td>
<td>Su Fa Sp</td>
<td>Su Fa Sp</td>
<td>Su Fa Sp</td>
<td>Su Fa Sp</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Appendix II

*Students’ Entrance Abilities for Past Five Years of Graduates: BS in Safety Technology*

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Mean High School GPA</th>
<th>Mean ACT</th>
<th>Mean SAT Verbal</th>
<th>Mean SAT Quantitative</th>
<th>Mean SAT Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>15</td>
<td>3.45</td>
<td>21.2 (n = 15)</td>
<td>550.0 (n = 2)</td>
<td>475.0 (n = 2)</td>
<td>----</td>
</tr>
<tr>
<td>2011-2012</td>
<td>14</td>
<td>3.32</td>
<td>21.7 (n = 12)</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>2012-2013</td>
<td>16</td>
<td>2.97</td>
<td>20.4 (n = 14)</td>
<td>423.3 (n = 3)</td>
<td>456.7 (n = 3)</td>
<td>420.0 (n = 3)</td>
</tr>
<tr>
<td>2013-2014</td>
<td>18</td>
<td>3.30</td>
<td>21.7 (n = 18)</td>
<td>470.0 (n = 1)</td>
<td>490.0 (n = 1)</td>
<td>500.0 (n = 1)</td>
</tr>
<tr>
<td>2014-2015</td>
<td>10</td>
<td>3.35</td>
<td>21.7 (n = 9)</td>
<td>495.0 (n = 2)</td>
<td>530.0 (n = 2)</td>
<td>415.0 (n = 2)</td>
</tr>
</tbody>
</table>
Appendix III
Exit Abilities for Past Five Years of Graduates: 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>2010-2011</td>
<td>15</td>
<td>2.87</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2011-2012</td>
<td>14</td>
<td>2.90</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2012-2013</td>
<td>16</td>
<td>2.72</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2013-2014</td>
<td>18</td>
<td>3.05</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2014-2015</td>
<td>10</td>
<td>2.98</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
## Component Area/Program/Discipline: BS in Safety Technology

### Program Level

<table>
<thead>
<tr>
<th>Program’s Student 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>Students will apply knowledge of mathematics, science, and applied sciences.</td>
<td>Assessment Point 1: SFT 373L (Lab Report #3)</td>
<td>Milestone</td>
<td>The results were prepared based on the data collected on 6 students (5 students in the lab component) in Spring 2014. The target level is expected to be 60% of students who can perform at or above milestone level. The results are showing that the outcomes of 80% of the students have met the target level.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment Point 2: SFT 454 (TBD)</td>
<td>Capstone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students will design and conduct experiments, as well as analyze and interpret data.</td>
<td><strong>Assessment Point 1:</strong> SFT 373L (Lab Report #1)</td>
<td><strong>Milestone</strong></td>
<td>The results were prepared based on the data collected on 6 students (5 students in the lab component) in Spring 2014. The target level is expected to be 60% of students who can perform at or above milestone level. As shown in the analysis, large percentage of students (60%) performed at Intro level.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment Point 2:</strong> SFT 454L (TBD)</td>
<td><strong>Capstone</strong></td>
<td>For each SFT373 lab, instructor will go over the calibration and operation of the anthropometry kit with each student at the beginning and towards the end of the lab session. Sample lab reports will also be discussed prior to the first lab.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students will formulate or design a system process or program to meet desired needs.</td>
<td><strong>Assessment Point 1:</strong> SFT 340 (TBD)</td>
<td><strong>Milestone</strong></td>
<td>The results were prepared based on the data collected on 23 students in fall 2014. The target level is expected to be 60% of students who can perform at or above milestone level. As shown in the analysis, the learning outcome has met the target level.</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment Point 2:</strong> SFT 460 (Project stage 3 report; Live training)</td>
<td><strong>Capstone</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students will function on multidisciplinary teams.</td>
<td>Assessment Point 1: TBD</td>
<td>Milestone</td>
<td>The results were prepared based on the data collected on 23 students in fall 2014. The target level is expected to be 60% of students who can perform at or above milestone level. As shown in the analysis, the learning outcome has met the target level.</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----------------</td>
<td>----------</td>
<td>-------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment Point 2: SFT 460 (Teamwork evaluation)</td>
<td>Capstone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students will identify and solve applied science problems.</td>
<td>Assessment Point 1: SFT 373 (Homework #2)</td>
<td>Milestone</td>
<td>The results were prepared based on the data collected on 6 students (5 students in the lab component) in Spring 2014. The target level is expected to be 60% of students who can perform at or above milestone level. As shown above, the learning outcome has met the target level.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment Point 2: TBD</td>
<td>Capstone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment Point 1: SFT 454 (TBD)</td>
<td>Milestone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Assessment Point 1: SFT 498 (TBD)</td>
<td>Milestone</td>
<td>Assessment Point 2: SFT 499 (TBD)</td>
<td>Capstone</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>-----------</td>
<td>----------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Students will demonstrate an understanding of professional and ethical responsibility.</td>
<td>Assessment Point 2: SFT 499 (TBD)</td>
<td>Capstone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students will communicate effectively.</td>
<td>Assessment Point 1: SFT 498 (TBD)</td>
<td>Milestone</td>
<td>Assessment Point 2: SFT 499 (TBD)</td>
<td>Capstone</td>
</tr>
<tr>
<td>Students will understand the impact of solutions in a global and societal context.</td>
<td>Assessment Point 1: TBD</td>
<td>Milestone</td>
<td>Assessment Point 2: SFT 498 (TBD)</td>
<td>Capstone</td>
</tr>
<tr>
<td>Students will demonstrate the ability to engage in lifelong learning.</td>
<td>Assessment Point 1: TBD</td>
<td>Milestone</td>
<td>Assessment Point 2: SFT 460 (Assignment)</td>
<td>Capstone</td>
</tr>
<tr>
<td>Students will demonstrate knowledge of contemporary issues.</td>
<td>Assessment Point 1: SFT 454 (TBD)</td>
<td>Milestone</td>
<td>Assessment Point 2: SFT 498 (TBD)</td>
<td>Capstone</td>
</tr>
<tr>
<td>Students will use the techniques, skills, and modern engineering tools necessary for engineering practice.</td>
<td>Assessment Point 1: SFT TBD (TBD)</td>
<td>Milestone</td>
<td>Assessment Point 2: SFT 490 (TBD)</td>
<td>Capstone</td>
</tr>
</tbody>
</table>
Program Learning Outcome 1: Students will apply knowledge of mathematics, science, and applied sciences.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate the ability to apply fundamental mathematics</td>
<td>Introductory</td>
</tr>
<tr>
<td>• Does not apply correct equations</td>
<td>• Does not describe and/or discuss results</td>
</tr>
<tr>
<td>• Does not describe and/or discuss results</td>
<td>• Does not submit a report</td>
</tr>
<tr>
<td>• Does not submit a report</td>
<td></td>
</tr>
</tbody>
</table>

Program Learning Outcome 2: Students will design and conduct experiments, as well as analyze and interpret data.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop laboratory skills to operate and calibrate ergonomics instruments</td>
<td>Introductory</td>
</tr>
<tr>
<td>• Does not operate lab equipment</td>
<td>• Does not calibrate equipment before use</td>
</tr>
<tr>
<td>• Does not describe and/or discuss results</td>
<td>• Does not submit a report</td>
</tr>
<tr>
<td>• Does not submit a report</td>
<td></td>
</tr>
</tbody>
</table>

Program Learning Outcome 3: Students will formulate or design a system process or program to meet desired needs.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate the ability to develop and present safety training lessons</td>
<td>Introductory</td>
</tr>
<tr>
<td>• Start the training presentation without introduction.</td>
<td>• Present the training with complete components.</td>
</tr>
<tr>
<td>• Lecture only without any Q&amp;A.</td>
<td>• Does not start or end on time.</td>
</tr>
<tr>
<td>• Does not submit a final report.</td>
<td>• Rarely ask questions and engage audience.</td>
</tr>
</tbody>
</table>
Program Learning Outcome 4: Students will function on multidisciplinary teams.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory</td>
<td>Milestone</td>
</tr>
</tbody>
</table>
| Demonstrate the ability to function on multidisciplinary teams | • Always not on time for team meetings  
• Always does not attend team meetings  
• Always complete the assigned tasks not as promised and not on time  
• Always does not actively participate in discussion | • On time for some team meetings  
• Attend some team meetings  
• Sometimes complete the assigned tasks as promised and on time  
• Sometimes actively participate in discussion | • On time for most of team meetings  
• Attend most of team meetings  
• Complete the assigned tasks mostly as promised and on time  
• Most of time actively participate in discussion | • Always on time for team meetings  
• Always attend team meetings  
• Always complete the assigned tasks as promised and on time  
• Always actively participate in discussion |

Program Learning Outcome 5: Students will identify and solve applied science problems.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory</td>
<td>Milestone</td>
</tr>
</tbody>
</table>
| Demonstrate the ability to apply NIOSH lifting equation and to perform workplace evaluation | • Does not apply the correct equations  
• Does not analyze or interpret the results  
• Does not submit a report | • Analyze or interpret the results with a few errors.  
• Submit a report with missing or incomplete sections | • Correctly calculate and interpret the results.  
• Submit a report with complete sections | • Discuss and provide possible ergonomic improvement solutions.  
• Submit a report with complete sections |
Program Learning Outcome 6: Students will demonstrate an understanding of professional and ethical responsibility.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory</td>
</tr>
<tr>
<td>Understand professional responsibility while working on accident investigation project</td>
<td>Able to cite proper guidelines and regulations</td>
</tr>
</tbody>
</table>

Program Learning Outcome 7: Students will communicate effectively.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory</td>
</tr>
<tr>
<td>Oral clear explanation of safety hazard identification, justifies it and suggests a way to reduce the exposure to the hazard</td>
<td>i) Satisfactory oral communication of identification and justification of a safety hazard (of choice) ii) Clear verbal presentation of why the hazard is of concern and should be removed</td>
</tr>
</tbody>
</table>
Program Learning Outcome 8: Students will understand the impact of solutions in a global and societal context.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory</td>
</tr>
<tr>
<td>Students will be able to justify several safety solutions in the</td>
<td>Students understand that solutions will differ depending</td>
</tr>
<tr>
<td>backdrop of various global and societal context</td>
<td>on the diversity of societal and global backdrops</td>
</tr>
<tr>
<td></td>
<td>Milestone</td>
</tr>
<tr>
<td></td>
<td>There is an analysis plan for how to analyze the</td>
</tr>
<tr>
<td></td>
<td>relationship between the solution and the outcome</td>
</tr>
<tr>
<td></td>
<td>variable in different global context.</td>
</tr>
<tr>
<td></td>
<td>Organization is satisfactory, references are cited</td>
</tr>
<tr>
<td></td>
<td>consistently.</td>
</tr>
<tr>
<td></td>
<td>Capstone</td>
</tr>
<tr>
<td></td>
<td>The solution is clearly described, the analysis plan is</td>
</tr>
<tr>
<td></td>
<td>logical and clearly justified in describing the impact</td>
</tr>
<tr>
<td></td>
<td>of the solution.</td>
</tr>
<tr>
<td></td>
<td>The literature review does address the outcome in global</td>
</tr>
<tr>
<td></td>
<td>epidemiological backdrops.</td>
</tr>
<tr>
<td></td>
<td>Advanced</td>
</tr>
<tr>
<td></td>
<td>The impact of the solution has consistency between the</td>
</tr>
<tr>
<td></td>
<td>solution goals.</td>
</tr>
<tr>
<td></td>
<td>The solution is also justified with evidence for risk</td>
</tr>
<tr>
<td></td>
<td>factors to be targeted and the underlying mechanism or</td>
</tr>
<tr>
<td></td>
<td>process to be interrupted.</td>
</tr>
</tbody>
</table>

Program Learning Outcome 9: Students will demonstrate the ability to engage in lifelong learning.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory</td>
</tr>
<tr>
<td>Demonstrate the ability to develop a personal lifelong learning plan</td>
<td>• Does not recognize the need for pursuing lifelong</td>
</tr>
<tr>
<td></td>
<td>learning.</td>
</tr>
<tr>
<td></td>
<td>• Does not describe any approach for continuing</td>
</tr>
<tr>
<td></td>
<td>education.</td>
</tr>
<tr>
<td></td>
<td>Milestone</td>
</tr>
<tr>
<td></td>
<td>• Does not describe at least three different ways.</td>
</tr>
<tr>
<td></td>
<td>• Does not include any details about each life-long</td>
</tr>
<tr>
<td></td>
<td>learning approach.</td>
</tr>
<tr>
<td></td>
<td>Capstone</td>
</tr>
<tr>
<td></td>
<td>• Describe three different ways.</td>
</tr>
<tr>
<td></td>
<td>• Provide justifications on how the lifelong learning</td>
</tr>
<tr>
<td></td>
<td>plan fits individual needs.</td>
</tr>
<tr>
<td></td>
<td>Advanced</td>
</tr>
<tr>
<td></td>
<td>• Describe more than three different ways.</td>
</tr>
<tr>
<td></td>
<td>• Provide personalized plan with reasonable timeline</td>
</tr>
<tr>
<td></td>
<td>and justifications.</td>
</tr>
</tbody>
</table>
Program Learning Outcome 10: Students will demonstrate knowledge of contemporary issues.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature review on contemporary safety hazards identify and cover the evidenced practices that have been undertaken as interventions to reduce the safety hazards.</td>
<td>Introductory Milestone Capstone Advanced</td>
</tr>
</tbody>
</table>
| i) No plan for how to analyze the relationship between the intervention variable and the outcome variable | i) Some address to the differences in outcomes when several safety interventions are trialed.  
ii) Explains the correspondence of the interventions to the original hazards. | i) Addresses and covers methods for measurement of the outcome  
i) Writing organization is good  
ii) References are cited consistently and used wisely | i) There is internal consistency between the intervention goals and the specific features of the hazard  
i) The analysis plan is clearly described and directly corresponds to the study goals |

Program Learning Outcome 11: Students will use the techniques, skills, and modern engineering tools necessary for engineering practice.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstration of use of Industrial Hygiene equipment</td>
<td>Introductory Milestone Capstone Advanced</td>
</tr>
<tr>
<td>Does not select the appropriate equipment for specific contaminant evaluation</td>
<td>Can select appropriate equipment. But cannot properly set up, operate, and calibrate equipment</td>
</tr>
</tbody>
</table>
## Appendix V

**Program Course Enrollment: BS in Safety Technology**

<table>
<thead>
<tr>
<th>Subj</th>
<th>CRSE</th>
<th>TITLE</th>
<th>Camp</th>
<th>Case Type</th>
<th>Sur10</th>
<th>FA10</th>
<th>Sp11</th>
<th>FA11</th>
<th>Sp12</th>
<th>FA12</th>
<th>Sp13</th>
<th>FA13</th>
<th>Sp14</th>
<th>FA14</th>
<th>Sp15</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFT</td>
<td>235</td>
<td>Intro to Safety</td>
<td>Huntington</td>
<td>None</td>
<td>192</td>
<td>125</td>
<td>125</td>
<td>89</td>
<td>69</td>
<td>58</td>
<td>71</td>
<td>53</td>
<td></td>
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<tr>
<td>SFT</td>
<td>340</td>
<td>Intro to Safety (CT)</td>
<td>Huntington</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>SFT</td>
<td>372</td>
<td>Safety &amp; Industrial Tech</td>
<td>Huntington</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFT</td>
<td>372</td>
<td>Safety &amp; Industrial Tech</td>
<td>Huntington</td>
<td>Online Course</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SFT</td>
<td>373</td>
<td>Prin Ergonomics &amp; Hum Factors</td>
<td>Huntington</td>
<td>None</td>
<td>19</td>
<td></td>
<td>21</td>
<td>7</td>
<td></td>
<td>17</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>SFT</td>
<td>373</td>
<td>Prin Ergonomics &amp; Hum Factors</td>
<td>Huntington</td>
<td>Online Course</td>
<td>15</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SFT</td>
<td>373L</td>
<td>Prin of Ergonomics Lab</td>
<td>Huntington</td>
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<td></td>
<td>17</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
<td>17</td>
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<td></td>
</tr>
<tr>
<td>SFT</td>
<td>373L</td>
<td>Prin of Ergonomics Lab</td>
<td>Huntington</td>
<td>Online Course</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
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<td>SFT</td>
<td>375</td>
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<td>Huntington</td>
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<td>Safety Eval &amp; Measurement</td>
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</tr>
<tr>
<td>SFT</td>
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<td>19</td>
<td>12</td>
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<td></td>
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</tr>
<tr>
<td>SFT</td>
<td>454L</td>
<td>Enviro Prog/Sampling Lab</td>
<td>Huntington</td>
<td>None</td>
<td>12</td>
<td>19</td>
<td>11</td>
<td>15</td>
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<tr>
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<td>Incident Investigation Tech</td>
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<tr>
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<td>Incident Investigation Tech</td>
<td>Huntington</td>
<td>Online Course</td>
<td>24</td>
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<tr>
<td>SFT</td>
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<td>Sftp: Intro to Mine Safety</td>
<td>Huntington</td>
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<td>12</td>
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<td>Sftp: Introduction to Mining</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
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<td>14</td>
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<tr>
<td>SFT</td>
<td>483</td>
<td>Sftp: Workers Compensation</td>
<td>Huntington</td>
<td>None</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>SFT</td>
<td>483</td>
<td>Sftp: Workers Compensation</td>
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<td>Wasp: Workers’ Compensation</td>
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</tr>
<tr>
<td>SFT</td>
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<td>Occup Safety &amp; Health Prog</td>
<td>Huntington</td>
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<td>9</td>
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<td>None</td>
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<td>SFT</td>
<td>499</td>
<td>Occup Safety Prog Mgmt</td>
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<td>15</td>
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<td></td>
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</tr>
</tbody>
</table>
### Appendix VI
Program Enrollment: BS in Safety Technology

<table>
<thead>
<tr>
<th>Students</th>
<th>Year 1 2010-2011</th>
<th>Year 2 2011-2012</th>
<th>Year 3 2012-2013</th>
<th>Year 4 2013-2014</th>
<th>Year 5 2014-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Majors Enrolled</td>
<td>75</td>
<td>82</td>
<td>70</td>
<td>71</td>
<td>64</td>
</tr>
<tr>
<td>No Areas of Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minors***</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>----</td>
<td>3</td>
</tr>
<tr>
<td>Grand Total of Students Enrolled in the Program</td>
<td>76</td>
<td>83</td>
<td>76</td>
<td>71</td>
<td>67</td>
</tr>
<tr>
<td>Graduates of the program</td>
<td>15</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>10</td>
</tr>
</tbody>
</table>
Figure 1. Trend Line for Total Enrollment and Program Graduates: BS in Safety Technology
## Appendix VII

### Job and Graduate School Placement Rates: BS in Safety Technology

<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>2010-2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>6</td>
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<tr>
<td>2012-2013</td>
<td>6</td>
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<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2013-2014</td>
<td>5</td>
<td>0</td>
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<td>9</td>
</tr>
<tr>
<td>2014-2015</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Five –Year Total</td>
<td>24</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>34</td>
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</tbody>
</table>
Appendix VIII: Letters from the Assessment Office

MARSHALL UNIVERSITY
www.marshall.edu
Office of Assessment & Program Review

April 24, 2015

Dr. Tony Szulcski, Chair
Division of Applied Science and Technology
College of Information Technology and Engineering

Dear Tony:


Reports for academic year 2014 – 2015 are officially due on May 15. If you need additional time to complete data analysis or if you need help with any part of the report, please let me know. I ask that your final report be submitted no later than September 15.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds, Associate Vice President for Assessment and Quality Initiatives

C: Dr. Wael Zatar, Dean, CITP
August 5, 2013

Dr. Allan Stern, Chair
Safety Technology
College of Information Technology and Engineering

Dear Allan:

The University Assessment Committee reviewers and I have completed our evaluations of the BS in Safety Technology's assessment of student learning for academic year 2012 – 2013, as submitted in the Open Pathways Project report last updated in May 2013. This letter will provide general comments and suggestions for improvement. Please refer to the attached assessment rubric for additional comments from reviewers. Please note that the reviewers' comments are based on the reports you submitted in February 2013, so may not be appropriate for your final report.

I note that you have begun to articulate your program's learning outcomes, but there are not enough at this point for me to evaluate them in terms of Level 3. You have made a nice start on your assessment rubrics and the assessments you have chosen for the two outcomes identified at this point appear to be appropriate and are integrated throughout the curriculum. Regarding your results, you say you do not have enough information to inform changes and, for the most part, I agree with that statement. However, I would have concern about all students (21) scoring at the introductory level for your communication outcome at assessment point 2. Also, for one of your traits for outcome 1 you report all your students scoring at the milestone level, which you've not yet described in your rubric.

During the academic year 2013 – 2014, programs will continue to report assessment results and plan actions using the online reporting form used last year. These reports will be due at the end of the academic year. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds, Associate Vice President
Assessment and Quality Initiatives

C: Dr. Wael Zatar, Dean, CIT
Office of Assessment & Program Review

June 21, 2012

Dr. Allan Stern, Chair
Safety Technology
College of Information Technology and Engineering

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 general comments and suggestions for improvement. I have included the scoring rubric we used to evaluate your assessment report in a separate document.

Your outcomes address higher levels of cognition and most are measurable (I realize they are mandated by ABET). You have articulated plans and a timeline for rubric development and for assessment data collection and analysis. However, the only results reported this year were results from self- and supervisor internship evaluations and from exit interviews. I did not see actual benchmarks given. With your ongoing work, and the work you are doing as part of the Open Pathways Demonstration Project, I look forward to seeing improvements in next year’s report.

During the coming academic year, it will be important that you follow the plan you developed as part of the first two activities of the Open Pathways Demonstration Project. The project’s steering committee will provide feedback regarding next steps in that project at summer’s end. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds
Director of Academic Assessment

C: Dr. Wael Zatar, Dean, CITE
Dr. Allen 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
Appendix IX – Accreditation Report
Dear Dr. Kopp:

I am pleased to transmit to you the findings of the Applied Science Accreditation Commission (ASAC) of ABET with respect to the evaluation conducted for Marshall University during 2010-2011. Each of ABET's Commissions is fully authorized to take the actions described in the accompanying letter under the policies of the ABET Board of Directors.

We are pleased that your institution has elected to participate in this accreditation process. This process, which is conducted by approximately 1,500 ABET volunteers from the professional community, is designed to advance and assure the quality of professional education. We look forward to our continuing shared efforts toward this common goal.

Sincerely,

Phillip E. Borrowman
President

Enclosure: Commission letter and attachments
ABET, Inc.

Applied Science Accreditation Commission
Summary of Accreditation Actions
for the
2010-2011 Accreditation Cycle

Marshall University
Huntington, WV

Safety Technology (BS)

Accredit to September 30, 2016. A request to ABET by January 31, 2015 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 01, 2015. The reaccreditation evaluation will be a comprehensive general review.
Betsy Ennis Dulin  
Dean, College of Information Technology & Engineering  
Marshall University  
One John Marshall Drive  
Huntington, WV 25755

Dear Dr. Dulin:

Applied Science Accreditation Commission (ASAC) of ABET recently held its 2011 Summer Meeting to act on the program evaluations conducted during 2010-2011. Each evaluation was summarized in a report to the Commission and was considered by the full Commission before a vote was taken on the accreditation action. The results of the evaluation for Marshall University are included in the enclosed Summary of Accreditation Actions. The Final Statement to your institution that discusses the findings on which each action was based is also enclosed.

The policy of ABET is to grant accreditation for a limited number of years, not to exceed six, in all cases. The period of accreditation is not an indication of program quality. Any restriction of the period of accreditation is based upon conditions indicating that compliance with the applicable accreditation criteria must be strengthened. Continuation of accreditation beyond the time specified requires a reevaluation of the program at the request of the institution as noted in the accreditation action. ABET policy prohibits public disclosure of the period for which a program is accredited. For further guidance concerning the public release of accreditation information, please refer to Section II.L. of the 2010-2011 Accreditation Policy and Procedure Manual (available at www.abet.org).

A list of accredited programs is published annually by ABET. Information about ABET accredited programs at your institution will be listed in the forthcoming ABET Accreditation Yearbook and on the ABET web site (www.abet.org).
It is the obligation of the officer responsible for ABET accredited programs at your institution to notify ABET of any significant changes in program title, personnel, curriculum, or other factors which could affect the accreditation status of a program during the period of accreditation.

Please note that appeals are allowed only in the case of Not to Accredit actions. Also, such appeals may be based only on the conditions stated in Section II.G. of the 2010-2011 Accreditation Policy and Procedure Manual (available at www.abet.org).

Sincerely,

[Signature]

John J. Segna, Chair
Applied Science Accreditation Commission

Enclosure:  Summary of Accreditation Action
Final Statement

cc:  Stephen J. Kopp, President
     Allan Stern, Chair, Applied Science and Technology
     Andy Drake, Visit Team Chair
Final Statement of Accreditation

to

Marshall University
Huntington, WV

2010-11 Accreditation Cycle
January 24, 2014

Wael Zatar
Dean, CITE
Marshall University
112 Guillickson Hall
1 John Marshall Dr.
Huntington, WV 25755

Dear Dr. Zatar:

Thank you for your patience in awaiting the decision of the Applied Science Accreditation Commission (ASAC) Executive Committee for continued accreditation for the Safety Technology (BS) Program at Marshall University based on changes the program has made.

The Executive Committee voted to continue accreditation at its December 13, 2013 teleconference meeting. Therefore, accreditation for the program with the change to include a pre-pharmacy option in the accredited program, as noted in the submitted documentation, is continued until September 30, 2016.


In addition, the ASAC Executive Committee reminds the program that in the 2015-16 general, comprehensive review, the program will need to provide a transcript that shows how the program’s options are displayed such that there is no ambiguity about what is the accredited program. Additionally, when promoting the inclusion of the pre-pharmacy option in the ASAC-accredited Safety Technology Program, the program is clear that ASAC has not separately accredited the pre-pharmacy option in the program.

If you have any questions concerning this issue, please contact me.

Sincerely,

Maryanne Weiss  
Senior Director, Accreditation Operations

cc: A. Stern

Assurance Quality * Stimulating Innovation
Introduction

The Applied Science Accreditation Commission (ASAC) of ABET, Inc. (ABET) has reviewed the self-study and completed a site visit November 7-9, 2010 for the Bachelor of Science – Safety Technology program at Marshall University. The statement that follows consists of two parts. The first part addresses the overall institution. The second part addresses the specific applied science program. This final statement reflects any information provided by Marshall University in its due process response.

ABET’s accreditation action will be based upon the findings summarized in this statement. Actions will be dependent on the program’s range of compliance or non-compliance with the ASAC/ABET criteria, including both general criteria and any applicable program criteria, and with the provisions of the ABET Policy and Procedure Manual. This range can be construed from the following wording:

- **Deficiency**: A deficiency indicates that a criterion, policy or procedure is not satisfied. Therefore, the program is not in compliance with the cited criterion, policy or procedure, and immediate action is required.

- **Weakness**: A weakness indicates that the program lacks the strength of compliance with a criterion, policy or procedure to ensure that the quality of the program will not be compromised. Therefore, remedial action is required to strengthen compliance with the cited criterion, policy or procedure prior to the next evaluation.
FINAL STATEMENT

- Concern: A concern indicates that, while a criterion, policy or procedure is currently satisfied, the potential exists for this situation to change in the near future, such that, the cited criterion, policy or procedure may no longer be satisfied.

- Observation: An observation is a comment of suggestion which does not relate directly to the accreditation action but is offered to assist the institution in its continuing efforts to improve its programs.

Marshall University is a public, state institution located in Huntington, West Virginia. The institution was originally Marshall Academy established in 1837 and became Marshall University in 1961. The institution is accredited by the North Central Association of Colleges and Schools and has an enrollment of approximately 16,000 students, including undergraduate, medical and graduate students.

In 1997, West Virginia Graduate College merged with Marshall University resulting in the creation of the Graduate School of Information Technology and Engineering, now called the College of Information Technology and Engineering. The Safety Technology program is under the Division of Applied Science and Technology in the College of Information Technology and Engineering (CITE), which consists of three Divisions. The CITE administration includes a Dean and an Assistant Dean. In addition, each of the three Divisions is administratively overseen by a Chairperson. The Program Director of the Bachelor of Science (B.S.) in Safety Technology program reports to the Division Chair of Environmental Science and Safety Technology. The College Dean and Associate Dean oversee allocation of resources for the Division. The Division Chair approves the budget allocation and expenditures for the program.
FINAL STATEMENT

MARSHALL UNIVERSITY

PROGRAM EVALUATION

Safety Technology Program

Evaluation under ASAC Program Criteria for Safety and Similarly Named Applied Science Programs

Introduction

The evaluation described in this section of the report was conducted under the Program Criteria for Safety and Similarly Named Programs, as published in the 2010-2011 Criteria for Accrediting Applied Sciences Programs. The criteria contained in the ABET Accreditation Policy and Procedure Manual were also used in the evaluation of this program.

The Safety Technology program is multi-disciplinary, with a focus on the application of science, law, management, and psychology of accident prevention and worker health. The program goal of preparing students to be competent safety professionals through a combination of academic, hands-on, industrial experience, combined with research by faculty and community involvement is appropriate for a bachelor-level program.

Enrollment in the program has steadily increased over the past five years. Current student enrollment is 72 full-time and 9 part-time students, which is approximately a 32% increase over enrollment during the last general review. The program faculty, including Program Director, consists of five full-time members (5.0 FTE) plus 0.1 FTE part-time members.

Program Strengths

1. The program has a proactive Safety Technology Advisory Committee (STAC), comprised of alumni, officials of firms that frequently recruit and employ graduates, representative of relevant governmental agencies, practicing members of allied professions and prominent members of the profession. This STAC meets frequently and advocates for the program, assists in securing internship opportunities and advises the program faculty on industry trends that affect the program curriculum.
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Program Weakness

1. Criterion 4. Continuous Improvement: Continuous Improvement states, "The program uses a documented process incorporating relevant data to regularly assess its program educational objectives and program outcomes, and to evaluate the extent to which they are being met." Evidence must be given that the results are applied to the further development and improvement of the program. A modest continuous improvement plan has been prepared, and program objectives and desired student outcomes have been identified. However, evidence to indicate that specific measures of success have been developed was inconsistent. Further, the assessment and evaluation methods being used lack consistency and structure. These omissions reduce the effectiveness of a continuous improvement initiative, and make it difficult to validate the success in achieving a program's stated objectives and student outcomes, and in making and documenting appropriate adjustments to the program.

- 7-day response: None received. Until the institution provides evidence that an assessment plan is being consistently followed and that continuous improvements are being made for the entire program, including a more structured process to include steps for enhanced data gathering, the finding remains a weakness.

- Due Process Response: The response reiterated the goal of the Safety Technology program faculty and leadership to address this weakness in the immediate future, and to identify plans to meet this goal in the coming months. For each item, we will provide additional information to the evaluation team chair and members prior to May 31, 2011, if available and appropriate before that time.

1. All faculty will continue to attend ABET workshops on continuous improvement methods and assessment so that every faculty member is clear on this process. We are planning attendance or each of them on a schedule based on their other program related activities and available funds.

2. The faculty will reevaluate and reform the basic Rubric Matrix for Objectives A – K and 1 – 8 for better cohesiveness.
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3. The faculty will review each course offered in the degree and reformulate clearer course learning objectives and better cross-correlation to the A – K Program Outcomes.

4. The program will enhance and expand the use of results from the student self-evaluation exit examinations and better correlate to the A – K Program Outcomes.

5. Results from student exit interview polls will be used to create a more detailed survey scale in the achievement of program course outcomes using a rubric to define results. Those results will be used to create a rating scale graph for each objective each year for the development of an action plan.

6. Program will maintain and ensure that faculty are aware of the list of materials that should be available for ABET campus visits and for our continuous improvement of the program and assessment of learning outcomes:
   - Examinations & Tests
   - Homework Assignments
   - Technical Projects and Laboratory Reports
   - Internship Reports
   - B.S. Graduating Student Exit Surveys
   - Advisory Council Meeting Notes
   - Alumni survey
   - Employer Intern Evaluations
   - Course Exit Surveys
   - Other materials as required.

7. Reevaluate the Process and timeline for Ongoing Assessment:
   - Graduating Student Exit Survey: Twice annually, December and May
   - Program Course Exit Survey: Twice annually, December and May
   - Employer Intern Surveys: Three Times a year
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- Advisory Council Meetings Minutes
- MU Alumni Survey Every three years

The program will include changes to the above and related items in a revised assessment plan, to the extent possible, which we will provide to ABET by the end of this review cycle.

- Post Due Process Response: The institution provided a detailed report prior to the Summer Accreditation meeting, providing evidence that they had revised their Continuous Improvement Plan, including metrics and timelines. Additionally, the report outlined their implementation of a Senior Exit Interview and Internship Evaluations along with data collected and the program improvements that resulted from the analysis of the data.

- Status after Post Due Process: Based on the evidence provided, this finding is resolved.