



## **Focus Program Review**

**Fire & Safety Engineering Technology (B.S.)  
CIP #43.0201**

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Department of Safety, Security & Emergency Management

November 30, 2007

## SUMMARY

The bachelor's program in Fire & Safety Engineering Technology is housed in the Department of Safety, Security & Emergency Management which is one of three departments in ECU's College of Justice & Safety, a state-recognized *Program of Distinction*.

During this focus review the program will look at the following areas:

- Student Learning Outcomes
- Student Learning Results
- Program Viability
- Technology
- Diversity
- Planning
- Career Preparation
- Faculty Teaching
- Faculty Advising

The bachelor's program is making great strides in developing and improving the use of results of student learning assessment. The department has looked at its weakness in the area of student assessment and is working to ensure that each objective is assessed and used to improve student learning.

## STUDENT LEARNING ASSESSMENT

### CRITERIA FOR MEASURING QUALITY OF STUDENT LEARNING

#### Student Learning Outcomes & Student Learning Results

Attached is the 2006-2007 Assessment Impact report for the Fire & Safety Engineering Technology program. Although not all objectives were measured a set schedule has been made by the program's coordinator to ensure that all objectives will be measured at least annually, this is also noted in TracDat. Results for each objective had been entered into TracDat and the use of those results has also been entered. At the start of the spring 2008 semester the program will also start using an E-Portfolio to assess program and student learning. This process will be in the pilot stage for several semesters to determine the viability of the E-Portfolio.

## OTHER INDICATORS OF PROGRAM ACHIEVEMENT

### PROGRAM VIABILITY (STUDENT DATA)

#### CURRENTLY ENROLLED STUDENTS

Overall the bachelor's program has shown an increase in enrollment over the past five years. When looking at the fall enrollments the enrollment continues to grow. When looking at the difference from the fall 2002 to fall 2006 the program experienced a 13.9% increase in overall enrollment. For fall 2007 the preliminary enrollment for the program is 250 which is a 9% increase from fall 2006 enrollment. This increase is due to the program offering the complete program online in addition to the traditional classes. With both an online and traditional program being taught, it is projected that the program's recruitment and retention rates will only continue to rise.

#### Fall 2002 to Fall 2006 Enrollment

Fall 2002	Fall 2003	Fall 2004	Fall 2005	Fall 2006	Average
201	223	219	219	229	218

#### 2002-2003 to 2006-2007 Academic Year Enrollment

2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Average
393	428	412	409	438	416

#### PROGRAM GRADUATES

Graduates of this program are active in the fire and emergency services in the Commonwealth of Kentucky and beyond. Some of the graduates continue on to the master's program in Safety, Security & Emergency Management. Graduates of the FSE program excel in both private and public sectors across the nation. For example a graduate of the FSE program was named volunteer fire chief of the year at the International Association of Fire Chiefs annual conference in Denver. Another FSE graduate served as the keynote speaker for the fire department instructor's conference in Indianapolis.

#### NUMBER OF MAJORS

The bachelor's program has continued to experience growth over the last few years. Both from students starting in the bachelor's program and students that originally start in the associate's program then transfer to the bachelor's program. With the addition of the bachelor's program going online starting fall 2007 the number of majors is only expected to climb higher. The differences between the FY 2002-2003 to FY 2006-2007 in the number of unduplicated majors increased by over 12%.

**Unduplicated Majors by Academic Year**

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Average
Full-time	196	225	214	216	232	217
Part-time	26	21	24	28	18	23
<b>Total</b>	<b>222</b>	<b>246</b>	<b>238</b>	<b>244</b>	<b>250</b>	<b>240</b>

**RETENTION OF STUDENTS**

Although not requested, the FSE program retention rates average in the mid to upper 60<sup>th</sup> percentile when looking at previous fall semesters compared to the preceding fall semester. Below shows that the FSE program continued to retain their students with only small amounts changing their majors or withdrawing from the University.

*Retention Rate Based on Fall Semester to Fall Semester*

Semester	Cohort	Returned	Changed Major	Withdrew	Graduated within Major
Fall 2002 to Fall 2003	212	147 (69.3%)	7.6%	6.6%	28.3%
Fall 2003 to Fall 2004	234	150 (64.1%)	6.8%	8.6%	24.8%
Fall 2004 to Fall 2005	222	156 (70.3%)	5.9%	6.8%	24.8%
Fall 2005 to Fall 2006	227	146 (64.3%)	4.9%	8.4%	29.5%

When using fall 2002 as the cohort for student retention the program continued to increase the number of students staying in the major and graduating. The chart below shows an increase in the percentage of students graduating from the original cohort of students.

*Percentage of Students Graduating within the Major from Fall 2002 Cohort*

	Fall 2003	Fall 2004	Fall 2005	Fall 2006
Fall 2002	28.3%	44.8%	56.6%	65.1%

**NUMBER OF GRADUATES**

The program continues to graduate students within the major. With the increase in enrollment from the online program being offered the graduate rate is also expected to increase. Looking at the percent change from 2002-2003 to the 2006-2007 the program experienced an 18.4% increase.

2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Average
38	48	30	49	45	42

**RATIO OF GRADUATES TO MAJORS**

In the table below, the departmental bachelor's program ratio is shown. The program had a small flux in the ratio because the number of majors and graduates decreased during the 2004-2005 academic year. However, for the past five years the program has maintained an average ratio of 5.71 graduates to majors.

2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Average
5.84	5.13	7.93	4.98	5.56	5.71

**AVERAGE CLASS SIZE**

The department and program has maintained a manageable class size to ensure that all students can still receive one on one instruction when needed. With the type of information that students need to learn in the program, many of the classes are not conducive to large class room sizes.

2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Average
28.09	26.49	27.49	28.35	29.08	27.91

In the table above, the departmental associate and bachelor programs are not desegregated due to both the associate’s and bachelor’s programs require many of the same courses.

**NUMBER OF FULL-TIME FACULTY**

Faculty	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007
Full-Time	7	7	7	7	8*

\*Only three of the full-time faculty taught 12-hour teaching loads for the FSE program. A combination of reassigned time for the remaining five faculty is spread across departmental administration, curriculum development, accreditation self-study and graduate program instruction. One of the above listed FSE full-time faculty members is entirely devoted to teaching in the SSEM graduate program and another is 75% devoted to graduate level teaching.

**AVERAGE GPA OF GRADUATES**

2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Average
3.00	2.96	2.94	2.98	3.10	3.00

**TECHNOLOGY**

We utilize various software programs to record data, describe physical facilities and incidents, prepare and deliver written and oral presentations concerning everything from documenting fire and arson scenes to presenting findings in mock trials to prepare our graduates to become “expert witnesses.” They also use a wide range of specialized equipment including thermal imaging cameras to gather, analyze and process investigation scenes. We utilize the program’s fire apparatus pumper to study friction loss and fluid dynamics associated with moving water in fire hoses and fire protection systems. The Richard Bogard Fire Protection Systems Laboratory within the Ashland building is a state-of-the-art facility used by our students to provide hands-on learning concerning basic fire sprinkler systems and fire pumps as well as to conduct research into new and emerging fire protection systems. We have hosted workshops with our students and local first responders to study the use of graphic information systems (GIS) to combine data and maps showing our students the power of this emerging technology in shaping political decisions regarding fire protection choices. There are countless other ways we use technological means to keep our graduates on the cutting edge of what they need to know to be successful.

**CONTRIBUTIONS TO DIVERSITY**

Below is the data for the official enrollment for the BS program by gender and ethnicity for the 2002-2006 time period. The data includes both full- and part-time students. The program is still below average for the college and university; however it is continuing to look for ways to increase its minority enrollment. The department chair spoke to several groups at the International Association of Fire Chiefs Conference seeking their support and suggestions for diversifying the faculty and student body within the FSE program. The groups addressed included:

- Black Chief Officers Association
- Hispanic Chief Officers Association
- Native American Chief Officers Association

The FSE program is in the process of developing an exploratory course to deliver in high schools with a higher minority population to attract and encourage those students to further their education at ECU in the FSE program. We anticipate piloting this course in the fall 2008 semester.

	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007
<b>Gender</b>					
Male	402 (89.9%)	432 (89.6%)	437 (88.8%)	431 (89.8%)	396 (90.4%)
Female	45 (10.1%)	50 (10.4%)	55 (11.2%)	49 (10.2%)	42 (9.6%)
<b>Total</b>	<b>447</b>	<b>482</b>	<b>492</b>	<b>480</b>	<b>438</b>
<b>Ethnicity</b>					
Caucasian	412 (92.2%)	462 (95.9%)	477 (97.0%)	459 (95.6%)	416 (95.0%)
Other Ethnicity	30 (6.7%)	20 (4.1%)	14 (2.8%)	15 (3.1%)	16 (3.7%)

### ACCREDITATION

The Fire & Safety Engineering Technology program has formed an Accreditation committee and is currently completing the IFSAC nationally recognized Fire Service Accreditation Boards requirements for program accreditation. One FSE faculty member has a reduced teaching load to facilitate his work on the accreditation self-study. We anticipate an advisory committee meeting this spring and a site visit during the 2008/2009 academic year.

### PLANNING

The department's action plan can be viewed online at (Department of Loss Prevention & Safety Action Plan from TracDat at <http://appweb.ecu.edu:8080/TracDat/tracdat/index.jsp>), as developed during the 2006-2010 year. The program and Department have taken several steps to improve how learning outcomes are measured and are used. The FSE program has several options that are available to students. The program developed objectives and key program indicators to measure those objectives to ensure that students are receiving a quality education. The program has also set up timelines to ensure that each objective is measured at least annually to ensure that student learning is being assessed.

### ADDITIONAL INDICATORS FOR PROGRAM SUCCESS

The following table provides evidence of professional success among program graduates, as indicated by employment. Based largely on a phone survey conducted in 2007.

Job Title	Employment
Plant Manager	Mikron Vinyl
Fire Chief	Lexington Fayette Urban County Government (LFUCG)
Assistant Fire Chief	Astoria Washington
Fire Marshal	Spartanburg, North Carolina
Municipal representative	National Fire Sprinkler Association
Deputy Fire Marshal	West Virginia
Deputy Fire Marshal	Ohio

Firefighter	Hilton Head, South Carolina
Firefighter	LFUCG
Fire Marshal	Gaston County, North Carolina
Firefighter	District of Columbia
Firefighter	Fire Department of New York
Haz-Mat Safety Specialist	Federal Bureau of Investigations

This is a sample of the BS students in our program. Our program represents all 50 states in the United States so contact is limited once students complete graduation.

In addition, several of the program’s students become leaders in their fields. An example is Tim Sendelbach, FSE ’92. He recently gave the keynote address at the Fire Department Instructors Conference (FDIC) in Indianapolis. FDIC is the largest fire conference in the nation and Tim’s presentation was attended by more than 3,000 participants.

## PROGRAM FACULTY

### INDICATORS OF TEACHING QUALITY

#### IDEA INFORMATION

Below is IDEA information from fall 2002 to spring 2007, the departmental associate and bachelor programs are not desegregated due to both associate’s and bachelor’s programs requiring many of the same courses. The program received “Average” to “High Average” for the four areas of interest. On all of the areas the program rated higher percentages in “High Average” when compared to the College and the University. This is an excellent indicator that the quality of instruction and course material is very high.

#### IDEA DATA

Progress on Relevant Objectives For Program Courses Compared to College and University Courses (Fall 2002 to Spring 2007)						
Adjusted T-Score Category	Program (Adjusted Scores)		College (Adjusted Scores)		University (Adjusted Scores)	
	Number	% of Total	Number	% of Total	Number	% of Total
Low (37 or less)	1	2.5%	25	5.2%	598	6.9%
Low Average (38-44)	5	12.5%	91	18.8%	1,630	18.8%
Average (45-55)	15	37.5%	216	44.7%	4,118	47.5%
High Average (56-62)	18	45.0%	112	23.2%	1,728	20.0%
High (63 or greater)	1	2.5%	39	8.1%	588	6.8%
<b>Total</b>	<b>40</b>		<b>483</b>		<b>8,662</b>	

Improved Student Attitude For Program Courses Compared to College and University Courses (Fall 2002 to Spring 2007)						
Adjusted T-Score Category	Program (Adjusted Scores)		College (Adjusted Scores)		University (Adjusted Scores)	
	Number	% of Total	Number	% of Total	Number	% of Total
Low (37 or less)	0	0%	5	1.8%	499	9.9%
Low Average (38-44)	0	0%	33	12.1%	669	13.3%
Average (45-55)	5	35.7%	103	37.7%	2,086	41.6%
High Average (56-62)	9	64.3%	84	30.8%	1,154	23.0%
High (63 or greater)	0	0%	48	17.6%	614	12.2%
<b>Total</b>	<b>14</b>		<b>273</b>		<b>5,022</b>	

\*Improved Student Attitude did not APPEAR on departmental IDEA evaluation summaries for the period Summer 2004-Spring 2007. Improved Student Attitude did not APPEAR on College and INSTITUTIONAL IDEA Evaluation Summaries for the period Fall 2005-Spring 2006.

Excellence of Teacher For Program Courses Compared to College and University Courses (Fall 2002 to Spring 2007)						
Adjusted T-Score Category	Program (Adjusted Scores)		College (Adjusted Scores)		University (Adjusted Scores)	
	Number	% of Total	Number	% of Total	Number	% of Total
Low (37 or less)	1	2.5%	25	5.2%	651	7.5%
Low Average (38-44)	3	7.5%	91	18.8%	1,632	18.8%
Average (45-55)	21	52.5%	211	43.7%	3,549	41.0%
High Average (56-62)	15	37.5%	128	26.5%	2,138	24.7%
High (63 or greater)	0	0%	28	5.8%	692	8.0%
<b>Total</b>	<b>40</b>		<b>483</b>		<b>8,662</b>	

Excellence of Course For Program Courses Compared to College and University Courses (Fall 2002 to Spring 2007)						
Adjusted T-Score Category	Program (Adjusted Scores)		College (Adjusted Scores)		University (Adjusted Scores)	
	Number	% of Total	Number	% of Total	Number	% of Total
Low (37 or less)	1	2.5%	123	11.0%	827	10.4%
Low Average (38-44)	6	15%	226	20.1%	1,423	17.8%
Average (45-55)	18	45%	445	39.7%	3,224	40.3%
High Average (56-62)	15	37.5%	200	17.8%	1,589	19.9%
High (63 or greater)	0	0%	128	11.4%	928	11.6%
<b>Total</b>	<b>40</b>		<b>1,122</b>		<b>7,991</b>	

IDEA materials describe the “Progress on Relevant Objectives” measure as “the most vital measure of effectiveness.” Unfortunately, the data that we received from IR could not be disaggregated into graduate and undergraduate scores so the above tables compare scores from our graduate courses with the combined graduate and undergraduate scores of the college and university. For each of the measured criteria, the departmental scores compare favorably with those of the college and university.

**OTHER TEACHING QUALITY MEASURES:**

With the start of fall 2007 the program began a peer review of faculty’s curriculum within the program. A curriculum committee is formed each academic year to assess the curriculum of a random course of each faculty. The committee will review and make suggestions to ensure that students are receiving the latest information.

In addition, the program also keeps information concerning faculty’s professional activities that promote greater learning. Some examples of activities that were performed by faculty were at least one book, article and a technology report published; three media interviews conducted with faculty; and two invited lectures by faculty. The faculty within the program are recognized as having great quality of knowledge in their fields of study. Below is a listing of some examples of this.

- Mr. Michael Shane LaCount, Assistant Professor of the Department of Safety, Security & Emergency Management, was recently appointed to the Governor’s Task Force on College Campus Safety.
- Tom Thurman was contracted by the United States State Department to teach two three-week post blast investigation schools for local law enforcement personnel in Bangladesh and Pakistan.
- Dr. Larry Collins and Dr. Tom Schneid presented at the EMERCOM conference in St. Petersburg, Russia to promote the online program during the fall 2006.
- Ron Hopkins was invited to speak at a gas safety seminar in Korea, June 2006. Hopkins spoke on “The Fire and Explosion Investigation System and Gas Incident Analysis”. He was one of only four speakers at the seminar and one of only two from the United States. The seminar was part of the Gas Safety Promotion Convention, a national event where about 500 engineers and guests gather to celebrate winners of “Safety Awards.”
- Larry Collins received Outstanding Faculty Award 2004 – Kentucky Association of Cooperative Education and Career Employment.



- Dr. Michael Schumann was named the Kentucky Safety and Health Network Educator of the year for 2007.

Although not a convenient presentation form of teaching quality, the University’s Graduating Senior Survey Data also supports the quality of teaching the program offers to students. Below is an accumulation of the past five years looking at only students within the bachelor’s program in Fire & Safety Engineering Technology program. On average the majority of students rated the quality of instruction they received in their major as “Excellent”. At no time during the 2002-2003 to 2006-2007 did the program rate below a 3.4 mean. In addition during the same time period “Excellent” was the majority choice for students.

Quality of Instruction (University Graduate Survey) “How would you rate the quality of instruction at EKU?” Fall 2002 to Spring 2007				
	Number	% of Total	Mean	Std. Deviation
Poor	1	0.76%		
Fair	8	6.06%		
Good	93	70.45%		
Excellent	30	22.73%		
<b>Total</b>	<b>132</b>		<b>3.15</b>	<b>0.545</b>

  

Quality of Instruction (University Graduate Survey) “How would you rate the quality of instruction in major?” Fall 2002 to Spring 2007				
	Number	% of Total	Mean	Std. Deviation
Poor	2	1.52%		
Fair	6	4.5%		
Good	31	23.48%		
Excellent	93	70.45%		
<b>Total</b>	<b>132</b>		<b>3.63</b>	<b>0.647</b>

## INDICATORS OF ADVISING QUALITY

### DEPARTMENTAL SURVEY OF DEGREE CANDIDATES

Overall performance of your FSE advisor based upon his/her knowledge of university requirements and the accuracy of counsel and guidance you received. Fall 2002 to Spring 2007		
Response Category	Frequency	Percent
<i>Excellent</i>	48	26.37%
<i>Very Good</i>	57	31.32%
<i>Good</i>	38	20.88%
<i>Fair</i>	23	12.64%
<i>Poor</i>	16	8.79%
<b>Total</b>	<b>182</b>	

Rating Scale: 5=Excellent; 4=Very Good; 3=Good; 2=Fair; 1=Poor

As already mentioned, the department conducts its own internal survey of graduating students. Data on student’s satisfaction with advisement were available from fall 2002 to spring 2007, however data was not available for spring 2004 and fall 2004. Over 57% of the students surveyed responded with “Very Good” or “Excellent” to the performance of their major’s advisor for counseling and guidance. Only a very small number of students considered the quality of their advisor to be “Fair” or “Poor”. The department continues to observe any major changes in student attitudes concerning advising by using this survey.

Assessment Impact  
Eastern Kentucky University  
Department of Safety, Security & Emergency Management

<b>Program Objective:</b>	<b>06-10 FSE - All Options 1</b> - The students will demonstrate fundamentals knowledge of the local, state and national standards appropriate to their chosen academic major involving fire investigations, and safety.
<b>Programs:</b>	06-10 Plan Fire & Safety Engineering Technology No \$ Educational Objectives

**Assessment Measures/KPIs**

Method	Criterion	Schedule for this measure	Who will use the data, how and when?
Use of departmental undergraduate exit survey questions 7 and 8. <b>Questions:</b> 7. A working knowledge of legal guidelines, such as OSHA, and appropriate codes and standards such as NFPA, ANSI, UL, FM, etc. 8. The ability to interpret and utilize legal guidelines and appropriate codes and standards applicable to fire and safety.	Of the students 70% will have answered "agreed" or higher for all questions (7 and 8).	Every Semester	FSE Faculty Assessment Committee and Chair of Department of Loss Prevention & Safety.
Alumni survey questions 4C and 4D. <b>Questions:</b> 4C. Competency to interpret and utilize legal guidelines and appropriate codes and standards applicable to fire and safety. 4D. Competency of fire protection systems.	Of the students surveyed 70% that respond will answer "agree" or higher to the three questions (4C and 4D).	Annually (Completed every one and five years out.)	

**Results/Observations**

Result/Observation	Use of Results /Observations	Follow-Up	Resolved
<b>06/27/2007</b> ~ Fall 2006 - Survey Overall 1 <b>DESCRIPTION:</b> Fall 2006 - Question 7 - 100% answered with agree or higher. n=25; mean=3.80; std=0.408 Question 8 - 100% answered with agree or higher. n=25; mean=3.64; std=0.490 <b>TYPE:</b> Distinction / Strength	<b>07/31/2007</b> ~ Criterion met, no action will be taken.		No
<b>06/27/2007</b> ~ Spring 2007 - Survey Overall 1 <b>DESCRIPTION:</b> Spring 2007 - Question 7 - 100% answered with agree	<b>07/31/2007</b> ~ Criterion met, no action will be taken. It has been observed that this objective does not have a direct measure. The department has plans to		No

<p>or higher. n=19; mean=3.53; std=0.513                  Question 8 - 100% answered with agree or higher. n=19; mean=3.42; std=0.507  <b>TYPE:</b> Distinction / Strength</p>	<p>put in place a electronic portfolio to be used by students to assess there overall learning. This portfolio will be used by this program as a direct measure this and several objectives. The plan is to have this portfolio in use by students by spring 2008.</p>		
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<b>Program Objective:</b>	06-10 FSE - All Options 2 - Students will demonstrate fundamental knowledge of management techniques and communication abilities necessary to serve in a leadership role in the fire, investigation, or safety.
<b>Programs:</b>	06-10 Plan Fire & Safety Engineering Technology No \$ Educational Objectives

Assessment Measures/KPIs			
Method	Criterion	Schedule for this measure	Who will use the data, how and when?
<p>Use of departmental undergraduate exit survey questions 3, 4 and 6.  <b>Questions:</b>                      3. The ability to communicate effective in writing.                      4. The ability to communicate effectively orally.                      6. A working knowledge of administration, management theory, and specific management skills necessary for successful employment as a fire and/or safety professional.</p>	<p>Of the students 70% will have answered "agreed" or higher for all questions (3, 4 and 6.</p>	<p>Every Semester</p>	<p>FSE Faculty Assessment Committee and Chair of Department of Loss Prevention &amp; Safety.</p>
<p>Alumni survey questions 4C and 4D.  <b>Questions:</b>                      4C. Competency to interpret and utilize legal guidelines and appropriate codes and standards applicable to fire and safety.                      4D. Competency of fire protection systems.</p>	<p>Of the students surveyed 70% that respond will answer "agree" or higher to the three questions (4C and 4D).</p>	<p>Completed every one and five years out.</p>	

Results/Observations			
Result/Observation	Use of Results /Observations	Follow-Up	Resolved
<p>06/27/2007 ~ Fall 2006 - Survey Overall 2  <b>DESCRIPTION:</b> Fall 2006                      Question 3 - 100% answered with agree or higher. n=25; mean=3.60; std=0.50                      Question 4 - 100% answered with agree or higher. n=25; mean=3.64; std=0.490</p>	<p>07/31/2007 ~ Criterion met, no action will be taken.</p>		<p>No</p>

Question 6 - 100% answered with agree or higher. n=25; mean=3.76; std=0.436 <b>TYPE:</b> Distinction / Strength			
06/27/2007 ~ Spring 2007 - Survey Overall 2 <b>DESCRIPTION:</b> Spring 2007 - Question 3 - 94.7% answered with agree or higher. n=19; mean=3.11; std=0.459 Question 4 - 94.8% answered with agree or higher. n=19; mean=3.26; std=0.562 Question 6 - 100% answered with agree or higher. n=19; mean=3.42; std=0.507 <b>TYPE:</b> Distinction / Strength	07/31/2007 ~ Criterion met, no action will be taken. It has been observed that this objective does not have a direct measure. The department has plans to put in place a electronic portfolio to be used by students to assess there overall learning. This portfolio will be used by this program as a direct measure this and several objectives. The plan is to have this portfolio in use by students by spring 2008.		No

<b>Program Objective:</b>	06-10 FSE - Fire Arson and Explosive Investigation - Students will demonstrate fundamental knowledge of investigative techniques and case management as it relates to fire, arson, and explosion scenes.
<b>Programs:</b>	06-10 Plan Fire & Safety Engineering Technology No \$ Educational Objectives

Assessment Measures/KPIs			
Method	Criterion	Schedule for this measure	Who will use the data, how and when?
Use of department undergraduate exit survey questions 2, 3, 4 and 7. <b>Questions:</b> 2. The ability to utilize technical resources (databases, trade journals, and technical manuals) to find solutions to problems fire safety and/or safety professionals encounter. 3. The ability to communicate effective in writing. 4. The ability to communicate effectively orally. 7. A working knowledge of legal guidelines, such as OSHA, and appropriate codes and standards such as NFPA, ANSI, UL, FM, etc.	Of the students 70% will have answered "agreed" or higher for all questions (2, 3, 4 and 7).	Each Semester	FSE Faculty Assessment Committee and Chair of Department of Loss Prevention & Safety.
Alumni survey questions 4A, 4C, and 4E. <b>Questions:</b> 4A. Competency in oral and written communication. 4C. Competency to interpret and utilize legal guidelines and appropriate codes and standards	Of the students surveyed 70% that respond will answer "agree" or higher to the	Annually (Completed every one and five years out.)	

applicable to fire and safety. 4E. Competency of basic safety management concepts necessary for fire science professionals	three questions (4A, 4C, and 4E).		
Instructor Evaluations	Mean committee rating of 3 or above with a possible (1-5 scale) in the knowledge category.	Completed every time class is offered.	

<b>Results/Observations</b>			
Result/Observation	Use of Results /Observations	Follow-Up	Resolved
08/02/2007 ~ Spring 2007 - Evaluation Arson <b>DESCRIPTION:</b> Spring 2007 - No instructor evaluations were complete during this semester. <b>TYPE:</b> Problem / Limitation	08/02/2007 ~ The program still has modifications that need to be put in place to ensure that instructor evaluations will be conducted in each class that is reflective of the objectives measure. For fire arson the courses will be: FSE 200; FSE 350; FSE 450; FSE 495	08/02/2007 ~ The following courses will be offered for this objective and has been set for completing instructor evaluations: Fall 2007 FSE 200; FSE 350; and FSE 495 Spring 2008 FSE 200; and FSE 450	No
06/27/2007 ~ Fall 2006 - Evaluation Arson <b>DESCRIPTION:</b> Fall 2006 - During the fall 2006 in both FSE 350 and FSE 495 an instructor evaluation was completed for students overall performance of knowledge relating to fire arson and explosive investigation. Both courses received a three or higher in the knowledge category, with 64.3% of the committee rating a four or better. <b>TYPE:</b> Distinction / Strength	06/27/2007 ~ Criterion was met; no action will be taken for the spring 2007 semester.		No
06/27/2007 ~ Fall 2006 - Survey Arson <b>DESCRIPTION:</b> Fall 2006 - Question 2 - 100% answered with agree or higher. n=25; mean=3.52; std=0.714 Question 3 - 100% answered with agree or higher. n=25; mean=3.60; std=0.50	07/31/2007 ~ Criterion met, no action will be taken.		No

Fire & Safety Engineering Technology (B.S.) Focus Program Review

<p>Question 4 - 100% answered with agree or higher. n=25; mean=3.64; std=0.490                  Question 7 = 100% answered with agree or higher. n=25; mean=3.80; std=0.408  <b>TYPE:</b> Distinction / Strength</p>			
<p>06/27/2007 ~ Spring - Survey Arson  <b>DESCRIPTION:</b> Spring 2007 -                  Question 2 - 100% answered with agree or higher. n=19; mean=3.58; std=0.507                  Question 3 - 94.7% answered with agree or higher. n=19; mean=3.11; std=0.459                  Question 4 - 94.8% answered with agree or higher. n=19; mean=3.26; std=0.562                  Question 7 = 100% answered with agree or higher. n=19; mean=3.53; std=0.513  <b>TYPE:</b> Distinction / Strength</p>	<p>07/31/2007 ~                  Criterion met, no action will be taken.</p>		<p>No</p>

<p><b>Program Objective:</b></p>	<p><b>06-10 FSE - Fire Engineering</b> - Students will demonstrate knowledge of basic fire protection engineering concepts, fire protection systems evaluation and design, as it relates to risk reduction.</p>
<p><b>Programs:</b></p>	<p>06-10 Plan                  Fire &amp; Safety Engineering Technology                  No \$ Educational Objectives</p>

Assessment Measures/KPIs			
Method	Criterion	Schedule for this measure	Who will use the data, how and when?
<p>Use of department undergraduate exit survey questions 9, 10, 11 and 13.  <b>Questions:</b>                  9. A fundamental understanding of fire protection systems (automatic detection and suppression systems).                  10. The ability to interpret and analyze technical drawings and graphic media used by fire and safety professionals.                  11. A working knowledge of water supply, fire hydrants, pumps, and friction loss in hoses and pipes.                  13. A working knowledge of building construction and the impact of building design and construction on life safety, potential losses and fire fighting options.</p>	<p>Of the students 70% will have answered "agreed" or higher for all questions (9, 10, 11 and 13).</p>	<p>Each Fall and Spring Semester</p>	<p>FSE Faculty Assessment Committee and Chair of Department of Loss Prevention &amp; Safety.</p>
<p>Alumni survey questions 4C and 4D.  <b>Questions:</b></p>	<p>Of the students surveyed 70% that</p>	<p>Annually</p>	

<p>4C. Competency to interpret and utilize legal guidelines and appropriate codes and standards applicable to fire and safety. 4D. Competency of fire protection systems.</p>	<p>respond will answer “agree” or higher to the three questions (4C and 4D). (Completed every one and five years out.)</p>		
<p>Instructor Evaluations</p>	<p>Mean committee rating of 3 or above with a possible (1-5 scale) in the knowledge category. (Completed every time class is offered.)</p>	<p>Every time class is offered</p>	

Results/Observations			
Result/Observation	Use of Results /Observations	Follow-Up	Resolved
<p>06/27/2007 ~ Fall 2006 - Evaluation Engineering <b>DESCRIPTION:</b> Fall 2006 - No instructor evaluations were complete during this semester. <b>TYPE:</b> Problem / Limitation</p>	<p>08/02/2007 ~ The program still has modifications that need to be put in place to ensure that instructor evaluations will be conducted in each class that is reflective of the objectives measure. For fire engineering the courses will be: FSE 200; FSE 221; FSE 322</p>	<p>08/02/2007 ~ The following courses will be offered for this objective and has been set for completing instructor evaluations: Fall 2007 FSE 200; and FSE 322 Spring 2008 FSE 200; and FSE 221</p>	<p>No</p>
<p>08/02/2007 ~ Spring 2007 - Evaluation Engineering <b>DESCRIPTION:</b> Spring 2007 - No instructor evaluations were completed this semester. <b>TYPE:</b> Problem / Limitation</p>	<p>06/27/2007 ~ Criterion was not met due to no instructor evaluations were completed. The program will look at taking steps to ensure that instructor evaluations are completed the reflective courses are offered.</p>		<p>No</p>
<p>06/27/2007 ~ Fall 2006 - Survey Engineering <b>DESCRIPTION:</b> Fall 2006 - Question 9 - 96.0% answered with agree or higher. n=25; mean=3.52; std=0.714 Question 10 - 96.0% answered</p>	<p>07/31/2007 ~ Criterion met, no action will be taken.</p>		<p>No</p>

<p>with agree or higher. n=25; mean=3.40; std=0.577                  Question 11 - 84.0% answered with agree or higher. n=25; mean=3.20; std=0.816                  Question 13 = 96.0% answered with agree or higher. n=25; mean=3.56; std=0.583  <b>TYPE:</b> Distinction / Strength</p>			
<p><b>06/27/2007</b> ~ Spring 2007 - Survey Engineering  <b>DESCRIPTION:</b> Spring 2007 -                  Question 9 - 100.0% answered with agree or higher. n=19; mean=3.37; std=0.496                  Question 10 - 84.3% answered with agree or higher. n=19; mean=3.05; std=0.621                  Question 11 - 88.9% answered with agree or higher. n=18; mean=3.00; std=0.943                  Question 13 = 100% answered with agree or higher. n=19; mean=3.47; std=0.513  <b>TYPE:</b> Distinction / Strength</p>	<p><b>07/31/2007</b> ~ Criterion met, no action will be taken.</p>		No

<b>Program Objective:</b>	<b>06-10 FSE - Fire Protection Administration</b> - Students will demonstrate fundamental knowledge of the functions of planning, organizing, directing and controlling as applicable to leadership in the fire and emergency services.
<b>Programs:</b>	06-10 Plan Fire & Safety Engineering Technology No \$ Educational Objectives

<b>Assessment Measures/KPIs</b>			
<b>Method</b>	<b>Criterion</b>	<b>Schedule for this measure</b>	<b>Who will use the data, how and when?</b>
Use of departmental undergraduate exit survey question 6. <b>Question:</b> 6. A working knowledge of administration, management theory, and specific management skills necessary for successful employment as a fire and/or safety professional.	Of the students 70% will have answered "agreed" or higher for question 6. (Completed every semester.)	Each Semester	FSE Faculty Assessment Committee and Chair of Department of Loss Prevention & Safety.
Alumni survey questions 4B and 4E.	Of the students surveyed	Annually	



<p><b>Questions:</b>                  4B. Competency of working knowledge of administrative and specific management skills necessary for successful employment.                  4E. Competency of basic safety management concepts necessary for fire science professionals</p>	<p>70% that respond will answer "agree" or higher to the three questions (4B and 4E).</p>	<p>(Completed every one and five years out.)</p>	
<p>Instructor Evaluations</p>	<p>Mean committee rating of 3 or above with a possible (1-5 scale) in the knowledge category.</p>	<p>Completed every time class is offered.</p>	

Results/Observations			
Result/Observation	Use of Results /Observations	Follow-Up	Resolved
<p>08/02/2007 ~ Spring 2007 - Evaluation Administration  <b>DESCRIPTION:</b> Spring 2007 - During the spring 2007 the FSE 400 course was offered and an instructor evaluation was completed for students overall performance of knowledge relating to fire protection administration. The course received a four or higher in the knowledge category.  <b>TYPE:</b> Distinction / Strength</p>	<p>08/02/2007 ~ The following courses will be offered for this objective and has been set for completing instructor evaluations:                      Fall 2007                      FSE 200; FSE 223 and FSE 350                      Spring 2008                      FSE 200; and FSE 400</p>	<p>08/02/2007 ~ The program still has modifications that need to be put in place to ensure that instructor evaluations will be conducted in each class that is reflective of the objectives measure. For fire protection administration the courses will be:                      FSE 200; FSE 223; FSE 350; FSE 400</p>	<p>No</p>
<p>06/27/2007 ~ Fall 2006 - Evaluation Administration  <b>DESCRIPTION:</b> Fall 2006 - During the fall 2006 the FSE 350 was offered and a instructor evaluation was completed for students overall performance of knowledge relating to fire protection administration. The course received a three or higher in the knowledge category, with 64.3% of the committee rating a four or better.  <b>TYPE:</b> Distinction / Strength</p>	<p>06/27/2007 ~ Criterion was met, no action to be taken at this time.</p>		<p>No</p>
<p>06/27/2007 ~ Fall 2006 - Survey Administration  <b>DESCRIPTION:</b> Fall 2006 - Question 6 - 100% answered with agree or higher. n=25; mean=3.76; std=0.436</p>	<p>07/31/2007 ~ Criterion met, no action will be taken.</p>		<p>No</p>

<b>TYPE:</b> Distinction / Strength			
06/27/2007 ~ Spring 2007 - Survey Administration <b>DESCRIPTION:</b> Spring 2007 - Question 6 - 100% answered with agree or higher. n=19; mean=3.42; std=0.507 <b>TYPE:</b> Distinction / Strength	07/31/2007 ~ Criterion met, no action will be taken.		No

<b>Program Objective:</b>	<b>06-10 FSE - Industrial Safety and Risk Management</b> - Students will demonstrate fundamental knowledge safety of appropriate standards and management techniques as it applies to safety professionals.
<b>Programs:</b>	06-10 Plan Fire & Safety Engineering Technology No \$ Educational Objectives

Assessment Measures/KPIs			
Method	Criterion	Schedule for this measure	Who will use the data, how and when?
Use of departmental undergraduate exit survey questions 7, 8 and 12. <b>Questions:</b> 7. A working knowledge of legal guidelines, such as OSHA, and appropriate codes and standards such as NFPA, ANSI, UL, FM, etc. 8. The ability to interpret and utilize legal guidelines and appropriate codes and standards applicable to fire and safety. 12. An understanding of basic safety management concepts necessary for success as a loss prevention professional.	Of the students 70% will have answered “agreed” or higher for all questions (7, 8 and 12).	Every Semester	FSE Faculty Assessment Committee and Chair of Department of Loss Prevention & Safety.
Instructor Evaluations	Mean committee rating of 3 or above with a possible (1-5 scale) in the knowledge category.	Completed every time class is offered.	

Results/Observations			
Result/Observation	Use of Results /Observations	Follow-Up	Resolved
08/02/2007 ~ Spring 2007 - Evaluation Industrial <b>DESCRIPTION:</b> Spring 2007 - No instructor evaluation was completed	08/02/2007 ~ The program still has modifications that need to be put in place to ensure that instructor	08/02/2007 ~ The following courses will be offered for this objective and has been	No

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during this semester. <b>TYPE:</b> Problem / Limitation	evaluations will be conducted in each class that is reflective of the objectives measure. For industrial safety and risk management the courses will be: FSE 200; FSE 360; FSE 410	set for completing instructor evaluations: Fall 2007 FSE 200; and FSE 361 Spring 2008 FSE 200; and FSE 410	
06/27/2007 ~ Fall 2006 - Evaluation Industrial <b>DESCRIPTION:</b> Fall 2006 - No instructor evaluations were completed during the fall 2006 semester. <b>TYPE:</b> Problem / Limitation	06/27/2007 ~ Criterion was not met. The program is looking at steps to ensure that instructor evaluations are complete.		No
06/27/2007 ~ Fall 2006 - Survey Risk Management <b>DESCRIPTION:</b> Fall 2006 - Question 7 - 100% answered with agree or higher. n=25; mean=3.80; std=0.408 Question 8 - 100% answered with agree or higher. n=25; mean=3.64; std=0.490 Question 12 - 100% answered with agree or higher. n=25; mean=3.56; std=0.507 <b>TYPE:</b> Distinction / Strength	07/31/2007 ~ Criterion met, no action will be taken.		No
06/27/2007 ~ Spring 2007 - Survey Risk Management <b>DESCRIPTION:</b> Spring 2007 - Question 7 - 100% answered with agree or higher. n=19; mean=3.53; std=0.513 Question 8 - 100% answered with agree or higher. n=19; mean=3.42; std=0.507 Question 12 - 94.4% answered with agree or higher. n=18; mean=3.21; std=0.976 <b>TYPE:</b> Distinction / Strength	07/31/2007 ~ Criterion met, no action will be taken.		No

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<b>Program Objective:</b>	06-10 FSE - Safety and Industrial Relations - Students will demonstrate fundamental knowledge of human resources and safety management as it relates to the work place.
<b>Programs:</b>	06-10 Plan Fire & Safety Engineering Technology No \$ Educational Objectives

Assessment Measures/KPIs			
Method	Criterion	Schedule for this measure	Who will use the data, how and when?
Use of departmental undergraduate exit survey questions 7, 8 and 12. <b>Questions:</b> 7. A working knowledge of legal guidelines, such as OSHA, and appropriate codes and standards such as NFPA, ANSI, UL, FM, etc. 8. The ability to interpret and utilize legal guidelines and appropriate codes and standards applicable to fire and safety. 12. An understanding of basic safety management concepts necessary for success as a loss prevention professional.	Of the students 70% will have answered "agreed" or higher for all questions (7, 8 and 12).	Every Semester	FSE Faculty Assessment Committee and Chair of Department of Loss Prevention & Safety.
Instructor Evaluations	Mean committee rating of 3 or above with a possible (1-5 scale) in the knowledge category.	Completed every time class is offered.	

Results/Observations			
Result/Observation	Use of Results /Observations	Follow-Up	Resolved
08/02/2007 ~ Spring 2007 - Evaluation Safety <b>DESCRIPTION:</b> Spring 2007 - No instructor evaluations were completed during this semester or academic year. <b>TYPE:</b> Problem / Limitation	08/02/2007 ~ The program still has modifications that need to be put in place to ensure that instructor evaluations will be conducted in each class that is reflective of the objectives measure. For Safety and Industrial Relations the courses will be: FSE 200; FSE 361; FSE 410	08/02/2007 ~ The following courses will be offered for this objective and has been set for completing instructor evaluations: Fall 2007 FSE 200; and FSE 361 Spring 2008 FSE 200; and FSE 410	No
06/27/2007 ~ Criterion was not met and still seems to be having problems with getting completed instructor evaluations. The program coordinator is looking at different methods to ensure that instructor evaluations are completed.	06/27/2007 ~ Fall 2006 - Evaluation Safety <b>DESCRIPTION:</b> Fall 2006 - No instructor evaluations were completed during this semester. <b>TYPE:</b> Problem / Limitation		No
06/27/2007 ~ Spring 2007 - Survey Industrial <b>DESCRIPTION:</b> Spring 2007 -	07/31/2007 ~ Criterion met, no action will be taken.		No

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<p>Question 7 - 100% answered with agree or higher. n=19; mean=3.53; std=0.513                  Question 8 - 100% answered with agree or higher. n=19; mean=3.42; std=0.507                  Question 12 - 94.4% answered with agree or higher. n=18; mean=3.21; std=0.976  <b>TYPE:</b> Distinction / Strength</p>			
<p><b>06/27/2007</b> ~ Fall 2006 - Survey Industrial Relations  <b>DESCRIPTION:</b> Fall 2006 -                  Question 7 - 100% answered with agree or higher. n=25; mean=3.80; std=0.408                  Question 8 - 100% answered with agree or higher. n=25; mean=3.64; std=0.490                  Question 12 - 100% answered with agree or higher. n=25; mean=3.56; std=0.507  <b>TYPE:</b> Distinction / Strength</p>	<p><b>07/31/2007</b> ~ Criterion met, no action will be taken.</p>		<p>No</p>