Health Sciences and Technology Academy Forensics Summer Institute (HSTA)

V(A). Planned Program (Summary)
1. Name of the Planned Program
Health Sciences and Technology Academy Forensics Summer Institute (HSTA)

V(B). Program Knowledge Area(s)
1. Program Knowledge Areas and Percentage

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
<th>%1862 Extension</th>
<th>%1890 Extension</th>
<th>%1862 Research</th>
<th>%1890 Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

V(C). Planned Program (Inputs)
1. Actual amount of professional FTE/SYs expended this Program

<table>
<thead>
<tr>
<th>Year: 2007</th>
<th>Extension</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1862</td>
<td>1890</td>
</tr>
<tr>
<td>Plan</td>
<td>0.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Actual</td>
<td>0.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

<table>
<thead>
<tr>
<th></th>
<th>Extension</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith-Lever 3b &amp; 3c</td>
<td>0</td>
<td>46358</td>
</tr>
<tr>
<td>1890 Matching</td>
<td>0</td>
<td>28057</td>
</tr>
<tr>
<td>1890 All Other</td>
<td>0</td>
<td>26405</td>
</tr>
</tbody>
</table>

V(D). Planned Program (Activity)
1. Brief description of the Activity
The tenth-grade students who attend the Forensics Summer Institute at WVSU were greeted on Sunday Night with a crime scene from which they collected data and observed the visual aspects of the scene. Throughout the week, the students interviewed potential suspects and witnesses in order to gather evidence to utilize with other evidence to solve the crime; learned how to process evidence at a crime scene through a myriad of forensic science methods — DNA processing, fingerprint collection and identification, and thin layer chromatography, just to name a few; and met in groups with their teacher/advisor to determine who committed the crime.

2. Brief description of the target audience
Rising high school sophomores that have an interest in pursuing a health, science, or technology-related field and come from families with low income and/or low educational attainment.
V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

<table>
<thead>
<tr>
<th>Year</th>
<th>Direct Contacts Adults</th>
<th>Indirect Contacts Adults</th>
<th>Direct Contacts Youth</th>
<th>Indirect Contacts Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>10</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>11</td>
<td>0</td>
<td>89</td>
<td>0</td>
</tr>
</tbody>
</table>

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>0</td>
</tr>
</tbody>
</table>

Patents listed

3. Publications (Standard General Output Measure)

<table>
<thead>
<tr>
<th>Number of Peer Reviewed Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension</td>
</tr>
<tr>
<td>Plan</td>
</tr>
<tr>
<td>2007</td>
</tr>
</tbody>
</table>

V(F). State Defined Outputs

Output Target

Output #1

Output Measure
- Students who attend the HSTA Forensics Summer Institute will participate in discussion groups on current topics in Forensic Science for a total of 6 hours per week.

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Output #2

Output Measure
- Students will participate in laboratory activities in the following topics: Blood typing and DNA analysis; handwriting analysis and thin layer chromatography; drug and toxin identification; and fingerprint identification for a total of 20 hours per week.

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Output #3

Output Measure
- Students will participate in Leadership workshops for a total of four hours per week.

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
## V(G). State Defined Outcomes

<table>
<thead>
<tr>
<th>O No.</th>
<th>Outcome Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60% of participants will respond that they learned 'a lot' or 'quite a bit' about each of the major Forensic topic areas in a post-experience survey.</td>
</tr>
<tr>
<td>2</td>
<td>30% of participants will report that attending the summer institute has had either a 'very high' or 'high' impact on increasing their interest in pursuing a health, science, or technology-related career.</td>
</tr>
<tr>
<td>3</td>
<td>Over 25% of participants in the summer institute will self report that they are non-white.</td>
</tr>
<tr>
<td>4</td>
<td>After time spent with university faculty, students will increase in their interest in attending college. 64% of students stated that being able to work directly with university faculty has increased their interest in attending college.</td>
</tr>
<tr>
<td>5</td>
<td>76.83% of students reported that attending the Forensics Summer Institute increased their interest in science.</td>
</tr>
</tbody>
</table>
Health Sciences and Technology Academy Forensics Summer Institute (HSTA)

1. Outcome Measures
   60% of participants will respond that they learned 'a lot' or 'quite a bit' about each of the major Forensic topic areas in a post-experience survey.

2. Associated Institution Types
   • 1890 Extension

3a. Outcome Type: Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>70</td>
<td>66</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The improved knowledge of youth in this program is important because it will enable them to select careers in health, science, and technology if they wish. The students who attend this program are mainly minorities and the purpose of the program is to encourage minorities to enter these career fields.

What has been done

89 students attended the HSTA Forensics Summer Institute and took part in seven forensic topic areas.

Results

An average of 66% of youth stated that they had either learned 'a lot' or 'quite a bit' about each topic.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #2

1. Outcome Measures

30% of participants will report that attending the summer institute has had either a ‘very high’ or ‘high’ impact on increasing their interest in pursuing a health, science, or technology-related career.

2. Associated Institution Types

• 1890 Extension

3a. Outcome Type: Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>30</td>
<td>39</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The increased interest of students in pursuing health, science, and technology careers is important because there is a need for an educated workforce to allow our country to compete globally.

What has been done

Students were engaged in a dynamic summer science program where they were able to take part in solving a mock crime scenario. Due to current high interest in forensics because of television shows like CSI, students become very interested in pursuing a career in forensics.
Results
47% of students participating stated that the Forensics Summer Institute had a 'very high' or 'high' impact on their interest in health, science, and technology careers.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #3

1. Outcome Measures
Over 25% of participants in the summer institute will self report that they are non-white.

2. Associated Institution Types
• 1890 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>25</td>
<td>36</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There is a serious gap in minority students pursuing health, science, and technology careers. Being able to conduct these dynamic science programs with large numbers of minority students allows us to show minority students that these careers are possible.

What has been done
The HSTA state office works very hard to recruit both female and non-white students to the program in order to improve access to underserved populations.

Results
Over 44% of the students attending the Forensics Summer Institute reported themselves in categories other than 'white.'

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #4

1. Outcome Measures
After time spent with university faculty, students will increase in their interest in attending college. 64% of students stated that being able to work directly with university faculty has increased their interest in attending college.

2. Associated Institution Types
• 1890 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>(No Data Entered)</td>
<td>2007</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement
One of the HSTA program's overall goals is to increase the college going rate in West Virginia. A recent study showed that only 26% of West Virginia adults hold a four-year degree.

What has been done

Students were provided with opportunities to work with faculty from two local universities on science and leadership topics. The more students have opportunities to interact with university faculty, the more their comfort level with college increases.

Results

Over 64% of students attending the Forensics Summer Institute reported that their interest in attending college had increased as a result of interacting with university faculty.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #5

1. Outcome Measures

76.83% of students reported that attending the Forensics Summer Institute increased their interest in science.

2. Associated Institution Types

• 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>(No Data Entered)</td>
<td>76</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As the major thrust of 4-H at this time in increasing interest in Science, Engineering, and Technology programs, it is very interesting to see that participation in a summer science program does increase students' interest in science.

What has been done

89 students attended a Forensics Summer Institute where they were able to take part in solving a mock crime scenario.

Results

76.83% of youth stated that involvement in the Forensics Summer Institute increased their interest in science.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Other (No control over recruiting)
Brief Explanation

At one point before HSTA took place, our state legislature was planning to cut funding for the statewide HSTA program. However, the state office found funding to support our summer program.

As far as the number of youth served, we do not recruit the youth for the program. The HSTA state office recruits the youth from their year-round program. Typically, over 100 youth express interest in attending the summer institute, but factors such as fear of the unknown, homesickness, and lack of motivation often knock the number into the 85-95 range.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned
   • Before-After (before and after program)

Evaluation Results
What is your race/ethnicity? (Please select one.)
Race/Ethnicity
#  
%  
African-American/Black  
32  
39.02  
American Indian  
1  
1.22  
Asian/Pacific Islander  
0  
0.00  
Hispanic  
0  
0.00  
White/Caucasian  
46  
56.10  
Bi-racial/Multi-Racial  
2  
2.44  
Other  
1  
1.22  
No Response  
0  
0.00  
Total  
82  
100  
What is your gender? (Please select one.)
Gender
#  
%  
Male  
26  
31.71  
Female  
56  
68.29  
No Response  
0  
0.00  
Total  
82  
100  
Overall, did you enjoy the HSTA Summer Institute? (Please select one.)
Responses
#  
%  
3=Yes  
61  
74.39  
2=Not Sure  
13  
15.85  
1=No  
7  
8.54  
No Response  
1
### How satisfied were you with the overall Summer Institute? (Please select one.)

<table>
<thead>
<tr>
<th>Responses</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5=Extremely Satisfied</td>
<td>15</td>
<td>18.29</td>
</tr>
<tr>
<td>4=Somewhat Satisfied</td>
<td>33</td>
<td>40.24</td>
</tr>
<tr>
<td>3=Fairly Satisfied</td>
<td>20</td>
<td>24.39</td>
</tr>
<tr>
<td>2=Somewhat Dissatisfied</td>
<td>11</td>
<td>13.41</td>
</tr>
<tr>
<td>1=Extremely Dissatisfied</td>
<td>3</td>
<td>3.66</td>
</tr>
<tr>
<td>No Response</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Total: 82

Mean: 3.56

SD: 1.06

### Has your affiliation and interaction with university faculty members increased your interest in attending college? (Please select one.)

<table>
<thead>
<tr>
<th>Responses</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2=Yes</td>
<td>53</td>
<td>64.63</td>
</tr>
<tr>
<td>1=No</td>
<td>29</td>
<td>35.37</td>
</tr>
<tr>
<td>No Response</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Total: 82

Mean: 1.65

SD: 0.48

### Has your week long stay at a university campus influenced your decision to attend college? (Please select one.)

<table>
<thead>
<tr>
<th>Responses</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.00</td>
</tr>
</tbody>
</table>
Key Items of Evaluation

What impact has attending the Summer Institute had on increasing your interest in health care careers? (Please select one and provide an explanation in Question 10a.)

<table>
<thead>
<tr>
<th>Responses</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5=Very High Impact</td>
<td>15</td>
<td>18.29</td>
</tr>
<tr>
<td>4=High Impact</td>
<td>24</td>
<td>29.27</td>
</tr>
<tr>
<td>3=Moderate Impact</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Mean: 1.71
SD: 0.46
<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>African-American/Black</td>
<td>32</td>
<td>39.02</td>
</tr>
<tr>
<td>American Indian</td>
<td>1</td>
<td>1.22</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>46</td>
<td>56.10</td>
</tr>
<tr>
<td>Bi-racial/Multi-Racial</td>
<td>2</td>
<td>2.44</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.22</td>
</tr>
</tbody>
</table>

What is your gender? (Please select one.)

<table>
<thead>
<tr>
<th>Gender</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26</td>
<td>31.71</td>
</tr>
<tr>
<td>Female</td>
<td>56</td>
<td>68.29</td>
</tr>
</tbody>
</table>

Overall, did you enjoy the HSTA Summer Institute? (Please select one.)

<table>
<thead>
<tr>
<th>Responses</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>3=Yes</td>
<td>61</td>
<td>74.39</td>
</tr>
<tr>
<td>2=Not Sure</td>
<td>13</td>
<td>15.85</td>
</tr>
<tr>
<td>1=No</td>
<td>7</td>
<td>8.54</td>
</tr>
</tbody>
</table>

No Response | 1 | 1.22 |

Report Date 12/03/2009
1.22
Total
82
100
Mean
2.67
SD
0.63
How satisfied were you with the overall Summer Institute? (Please select one.)
Responses
#
%
5=Extremely Satisfied
15
18.29
4=Somewhat Satisfied
33
40.24
3=Fairly Satisfied
20
24.39
2=Somewhat Dissatisfied
11
13.41
1=Extremely Dissatisfied
3
3.66
No Response
0
0.00
Total
82
100
Mean
3.56
SD
1.06
Has your affiliation and interaction with university faculty members increased your interest in attending college?
(Please select one.)
Responses
#
%
2=Yes
53
64.63
1=No
29
35.37
No Response
0
0.00
Total
82
100
Mean
1.65
SD
0.48
Has your week long stay at a university campus influenced your decision to attend college? (Please select one.)
Responses
#
%
2=Yes
58
70.73
1=No
24
29.27
No Response
0
0.00
Total
82
100
Mean
1.71
SD
0.46

What impact has attending the Summer Institute had on increasing your interest in health care careers? (Please select one and provide an explanation in Question 10a.)

<table>
<thead>
<tr>
<th>Responses</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>