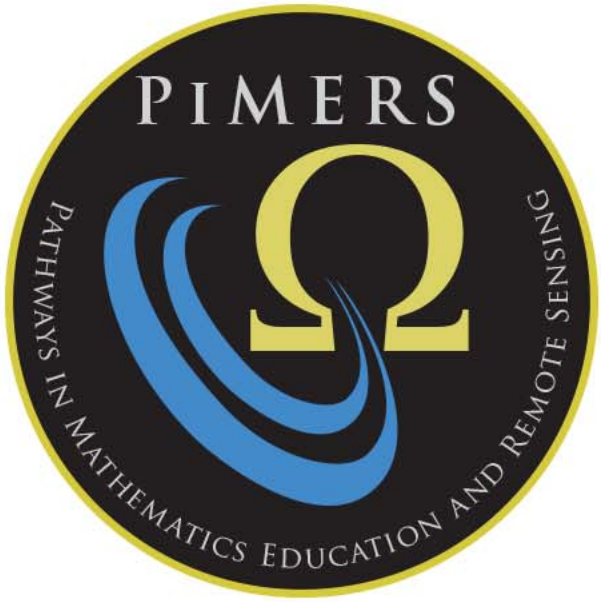

EVALUATION PLAN

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http://nia.ecsu.edu/pimers/

NASA MUREP Other Opportunities (MOO) Grant NNX16AC89A
Pathways in Mathematics Education and Remote Sensing (PiMERS)

NASA MUREP Other Opportunities (MOO) Grant NNX16AC89A
Pathways in Mathematics Education and Remote Sensing (PiMERS)

PiMERS Evaluation

The Pathways in Mathematics Education and Remote Sensing (PiMERS) addresses education goals and objectives as outlined in the NASA 2014 Strategic Plan. PiMERS also addresses NASA's short term Annual Performance Indicators, which set quantifiable targets for NASA offices, programs and projects. This evaluation plan indicates the methodology, metrics and goal associated with PiMERS activities as associated with NASA'S Education Performance Goals and their associated Annual Performance Indicators (API)

In addition to report on the evaluation metrics, tabulation and assessment of questionnaires, reaction surveys, program evaluations (including but not limited to the Celebration of Women, Academic Year REU, NASA STEM Day and PiMERS Summer Internship Experiences).

NASA's Education Performance Goal	**Annual Performance Indicators (API)**	**PiMERS Methodology**	**PiMERS Evaluation Metric**	**PiMERS Goal**
***Goal*: FY 2015 and FY 2014 2.4.1** *Assure that students participating in NASA higher education projects are representative of the diversity of the Nation.*	**FY 2015 ED-15-1** Provide significant, direct student awards in higher education to (1) students across all institutional levels and types (as defined by the U.S. Department of Education); (2) racially or ethnically underrepresented students, (3) women, (4) persons with disabilities, and (5) veterans at percentages that meet or exceed the national percentages for these populations, as determined by the most recent, publicly available data from the U.S. Department of Education's National Center for Education Statistics for a minimum of two of the five categories.	Provide PiMERS fellowships, stipends and scholarships to Mathematics Education, CS and Remote Sensing majors.	Percent of women and minority participants. Total number of minorities and women participating in NASA higher education projects.	75% minority 40% women

***Goal*: FY 2015 and FY 2014 2.4.2:** *Continue to support STEM educators through the delivery of NASA education content and engagement in educator professional development opportunities.*	**API:FY 2015 ED-15-2:** 250,000 educators participate in NASA-supported professional development, research, and internships that use NASA-unique STEM content.	Provide PiMERS scholarships to Mathematics Education pre-service teachers. Provide internships at NASA LaRC for Mathematics Education pre-service teachers.	Number and amount of scholarships distributed to Mathematic Education pre-service teachers. Number of internships provided for Mathematic Education pre-service teachers.	3 Pre-service teachers/year receive scholarships and internships
***Goal:* FY 2015 and FY 2014 2.4.3:** *Assure that the institutions NASA engages with represent the diversity of institution types and levels in the Nation as defined by the U.S. Department of Education.*	**API: FY 2015 ED-15-3:** Provide funding to institutions of higher education across all institutional categories and types (as defined by the U.S. Department of Education) that meet or exceed the national percentages for these institutional types and category levels, as determined by the most recent, publicly available data from the U.S. Department of Education.	House the PiMERS program at Elizabeth City State University (an HBCU) Document Racially/ethnically ECSU underrepresented students and women participants in PiMERS events	Grant is managed by and housed in the Mathematics and Computer Science Department of Elizabeth City State University. ECSU Business and Finance Office and the Office of Sponsored Programs provide oversight for the award.	Successful operation and reporting as required by Elizabeth City State University.
***Goal*: FY 2015 and FY 2014 2.4.5** *Continue to provide opportunities for learners to engage in STEMeducation engagement activities that capitalize on NASA-unique assets and content.*	**API: FY 2015 ED-15-5:** *600,000 elementary and secondary students participate in NASA STEM engagement activities.*	Conduct NASA STEM Day in the spring, summer middle school program and Celebration of Women Math in the fall.	Number of Girls participating in the CWM Number of students participating in NASA day during Research Week. Number of precollege students participating in summer programs.	300 precollege girls participating in the CWM 400 precollege students participating in NASA STEM Day 12 summer middle school students.

Formative Evaluation

1. List of Student, Faculty and Staff Activities
2. Webpages of all pertinent activities
3. Tabulation and assessment of questionnaires, reaction surveys, program evaluations (including but not limited to the Celebration of Women, Academic Year REU, Research Week and PiMERS Summer Internship Experiences)
4. Daily entry of debits and credits, weekly assessment of the budget, and review of monthly financial summary reports

Summative Evaluation

1. Total number of minorities and women college students participating in NASA higher education projects
2. Documentation of significant, direct student awards in higher education to (1) racially/ethnically underrepresented students and (2) women
3. Total numbers and kinds of PiMERS elementary and secondary students who are traditionally underrepresented have participated in NASA STEM engagement activities
4. Total number of fellowships and scholarships disseminated by virtue of this grant
5. The retention and graduate rates of PiMERS undergraduate and master's student participants

NASA's Annual Performance Indicators are outlined in NASA's FY 2015 Complete Management and Performance Appendix.
FY 2015 and FY 2014 2.4.1: Assure that students participating in NASA higher education projects are representative of the diversity of the Nation. **PiMERS anticipates 75% African American participation and 40% for women.**

FY 2015 ED-15-1: Provide significant, direct student awards in higher education to (1) racially or ethnically underrepresented students and (2) women. **PiMERS will provide over $160,000 in scholarships, work-study, and fellowships (~ 30% of its budget).**

FY 2015 ED-15-5: 600,000 elementary and secondary students participate in NASA STEM engagement activities. **The PiMERS luncheon and workshops during the CWM will impact over 300 middle and high school students/year and their teachers. The precollege day during Research Week will impact over 400 precollege students/year while the other Research Week seminars and poster session's impacts 200 undergraduates.**

PiMERS Evaluation Instruments

NASA MUREP

Celebration OF WOMEN IN MATHEMATICS

Teachers Survey / Celebration of Women in Mathematics

School _____Grade that you teach _____

Subjects that you teach_____

We have hosted the Celebration of Women in Mathematics on the campus of Elizabeth City State University for the past 19 years, with about 300-400 girls attending each year. Please take a moment and give us your input on these events and their impact at your school.

1. What would you say has been the greatest impact of the annual Celebration of Women in Mathematics on the girls at your school?

2. To what extent has the CWM increased or decreased the discussion of mathematics topics among girls at your school?

3. To what extent has the CWM increased or decreased the number of girls who take mathematics courses at your school?

4. To what extent has the CWM increased or decreased the attitude towards mathematics of the girls at your school?

5. Do you ever ask the girls to present their cheers at events at your school?

6. Are the girls who attend the CWM recognized at the honors/awards program at your school?

7. Is the principal or the superintendent aware of your participation in the CWM? If so, have they ever recognized your participation? How?

Celebration of Women in Mathematics

NASA MUREP

STUDENT QUESTIONNAIRE

Background Information

Grade: _____ School: _____

(Optional) Race: ☐ White ☐ Black ☐ Hispanic ☐ Other

Who told you about the conference? (Check one and give name of that person)
☐ Teacher ☐ Counselor ☐ Parent ☐ Friend ☐ Other

-That person's name: _____

Check the courses you have taken or are now taking:
☐ Algebra 1 ☐ Geometry ☐ Algebra 2 ☐ Trigonometry ☐ Calculus

☐ Biology/Chemistry ☐ Physics ☐ Other Math or Science_____

What occupation are you planning? _____

After high school, how many years of education are you planning? (Check one)
☐ None ☐ Community College (1-2 years) ☐ 1-3 years at a four year college
☐ 4 years (Bachelor's Degree) ☐ Master's Degree ☐ Ph.D./Professional Degree

Have you attended a math day before? (Check One) ☐ Never ☐ 1 or 2 ☐ Many

About This Day

Which workshops did you attend?

Workshop _____ (dull) 1 2 3 4 5 (fantastic)

Workshop _____ (dull) 1 2 3 4 5 (fantastic)

Workshop _____ (dull) 1 2 3 4 5 (fantastic)

The level of the Math Sprint problems were (too easy) 1 2 3 4 5 (too hard)

What activity did you enjoy most? _____

_____

Did you learn anything that surprised you? (Explain) _____

_____

Use the back of this sheet for any additional comments

(CERSER Python Training Course Evaluation Template)

Final Python Training Course Evaluation
(Fall 2016)
CERSER

Instructions to Participant:
Thank you for participating in this CERSER Fall semester Python training. In this feedback form, there are no WRONG or RIGHT answers. You do not need to put your name on this form – your responses are anonymous. Please respond to ALL the questions below to help us to improve the curriculum, training materials, and the conduct of the training.

For each item below, please circle only a single appropriate response.

		RESPONSE		
		NOT AT ALL	SOMEWHAT	VERY MUCH
1.	The training was well organized.	**0**	**1**	**2**
2.	The training sessions were relevant to my needs.	**0**	**1**	**2**
3.	The presenters were well prepared.	**0**	**1**	**2**
4.	The presenters were receptive to participant comments and questions.	**0**	**1**	**2**
5.	The exercises helped me to learn the material.	**0**	**1**	**2**
6.	There was enough time to cover all materials.	**0**	**1**	**2**
7.	The training enhanced my knowledge and skills in TB prevention, care and control.	**0**	**1**	**2**
8.	I expect to use the knowledge and skills gained from this training.	**0**	**1**	**2**
9.	The evaluation forms were simple to use.	**0**	**1**	**2**
10.	The training facilities were adequate.	**0**	**1**	**2**
11.	I would recommend this training course to a colleague.	**0**	**1**	**2**

Self-Assessment of Learning: think about what you already knew and what you learned during this training on Python coding. Then evaluate your knowledge in each of the following topic areas **Before and After** this training.

1 = No knowledge or skills **3 = Some knowledge or skills** **5 = A lot of knowledge or skills**

BEFORE TRAINING					SELF-ASSESSMENT OF YOUR KNOWLEDGE AND SKILLS RELATED TO:	AFTER TRAINING				
1	**2**	**3**	**4**	**5**	Performing mathematical operations	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Creating variables using indexing	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Printing strings and variables including concatenation	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Navigating the Unix/Linux Shell	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Creating Loops	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Recognizing and practice of the 6 comparators [==, !=, <=, .+, <, >]	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Demonstrating use of user inputs in a variable or string	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Demonstrating and comprehension defining functions	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Making and editing list using slice, append, and add values to a list	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Demonstrate how to create dictionary's and the differences from a list.	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Comprehension of outputting data to a file	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	Comprehension of reading and writing data to a file	**1**	**2**	**3**	**4**	**5**
1	**2**	**3**	**4**	**5**	How to write a Python Script and creating text files	**1**	**2**	**3**	**4**	**5**

Please reflect on the Python training that you just completed and respond to the following:

1. What part of the training was the **most useful** for your work?

2. What part of the training was the **least useful** for your work?

3. Please list three ideas or lessons that you learned during this training that you will take back to your worksite/practice.

   a.

   b.

   c.

4. What information/topics should be added to this training?

5. The technical level of the material covered in the workshop was: (circle one)

   Too basic Just right Too difficult/too technical

6. How could the course be improved?

7. Other comments:

Thank you for completing this form!

ECSU NASA STEM Day Evaluation Form

Research Week Evaluation Form

Friday:

1. Are you: ☐ ECSU Student ☐ ECSU Faculty ☐ K-12 Student

☐ K-12 Teacher ☐ Other

2. I attended the following displays/demonstrations (tick all that applies)

☐ Student Poster Session ☐ Aviation Science - Trailer ☐ ECSU Admissions

☐ NASA Displays ☐ VASC - Robotics ☐ VASC - Space

☐ Planetarium Show ☐ Smart Boards ☐ Aviation Science Wind Tunnel

☐ Remote Sensing ☐ Math Smart Boards ☐ Distinguished Lecture

3. The display contents were: ☐Excellent ☐Good ☐Fair ☐Poor

Comments:_____

_____

4. The information that I received was: ☐Excellent ☐Good ☐Fair ☐Poor

Comments:_____

_____

5. The time provided for the display was: ☐Excellent ☐Good ☐Fair ☐Poor

Comments:_____

_____

6. Something I learned today:

_____

_____

7. As a result of the displays/demonstrations, I plan to (tick all that applies):

☐ enroll in courses that offer similar contents
☐ attend more displays
☐ do internships related to the displays
☐ do research activities related to the displays

Other: _____

_____

8. Overall, the displays were: ☐Excellent ☐Good ☐Fair ☐Poor

Comments:_____

_____

_____

9. Suggestions for future topics:

_____

_____

Research Week Evaluation Form

Date: ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday

Name of session: _____

1. Are you: ☐ ECSU Student ☐ ECSU Faculty ☐ Other

2. The Presenter(s) was/were: ☐ Excellent ☐ Good ☐ Fair ☐ Poor
Comments:_____
_____

3. The presentation program content was: ☐ Excellent ☐ Good ☐ Fair ☐ Poor
Comments:_____
_____

4. The program presentation was beneficial: ☐ Yes ☐ No
Comments:_____
_____

5. The information that I received was: ☐ Excellent ☐ Good ☐ Fair ☐ Poor
Comments:_____
_____

6. The time provided for the presentation was: ☐ Excellent ☐ Good ☐ Fair ☐ Poor
Comments:_____
_____

7. Something I learned today:
_____
_____

8. As a result of this presentation, I plan to (tick all that applies):

☐ enroll in courses that offer similar contents

☐ attend more workshops/presentations

☐ do internships related to this presentation

☐ do research activities related to this presentation

Other: _____
_____

9. Suggestions for future presentation topics:
_____
_____

REU Follow-up Survey

1. General Information

Name:_____

Mailing Address: _____

Email:_____ Phone Number: _____

Current Occupation (student or job title): _____

Institution/Employer:_____

Year of participation: _____

Internship Location:_____

2. If you are a student, are you an ☐ Undergraduate ☐ Master's ☐ PhD

3. What is your current major?_____

4. If you are an undergraduate student, do you intend on applying for graduate school? If so, where and what program?

_____

5. Have you presented your research project at conferences (posters or presentations) or for a publication? If so, please list conference information (name, dates, location) or journal information (name, date, edition).

Name	Date	Location/Edition
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. Did you attend any other summer internship programs? If yes, please provide program information (name of program, host institution, dates).

Name	Date	Location/Edition
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Demographic Information

Gender ☐ Male ☐ Female

Race:

☐ American Indian/Native Alaskan

☐ African-American/Black (non-Hispanic)

☐ White (non-Hispanic)

☐ Asian or Pacific Islander

☐ Latino/Hispanic

☐ Prefer not to indicate

☐ Other (Please specify):

Family Structure and Income

Single Parent Household Income: _____

Dual Parent Household Income: _____