SOCIETY OF PHYSICS STUDENTS
An organization of the American Institute of Physics

Future Faces of Physics Award Report

Instructions: Please complete each section after reading the purple text describing what should be in that section. Then delete the purple text.

Project Proposal Title	Proposal to allow the continuation and improvement of our mentoring program
Name of School	University of Southern Mississippi
SPS Chapter Number	6626
Project Lead (name and email address)	[Please use the same Project Leader that is listed in your proposal unless you have already updated this with the SPS National Office.]
Total Amount Received from SPS	$300
Total Amount Expended from SPS	$300

Summary of Award Activity

The University of Southern Mississippi chapter of the Society of Physics Students received the Future Faces of Physics Award for the third consecutive year. This award was used to promote outreach into our campus and greater community as well as to fund mentoring and tutoring for physics majors.

Statement of Activity

Overview of Award Activity

Brief description:

Our existing program has a slight flaw in that our incoming classes of students are always small to begin with. It is therefore, difficult to set students up with small groups of their immediate peers. Students fresh from high school are also reluctant to “bother” older students and take full advantage of the mentoring programs. We were able to overcome some of this reluctance by repeatedly inviting freshmen and transfers to help us run booths at outreach events. There tended to be a lot of informal mentoring between waves of people at these events. The time spent teaching new students how to run the booth and explain the demonstrations also helped to get them more involved.

Outcomes:

We have been able to maintain a strong core group of SPS members, and keep most of our freshmen in the program. We also did outreach events at several on and off campus locations each semester. Because of the numbers of non-majors in our school's introductory physics classes, tutoring was often physics majors instructing non-majors in problem-solving and a bit of the theory. This was still beneficial to our tutors, as it reinforced the basic concepts and forced them to think of alternate explanations if a student was having difficulty with the standard explanation.

Audience:

As we mentioned in our proposal, there were really two audiences. The first audience was the category of first generation students or students from underrepresented groups. We only had one new student who fit that category. We were able to get that student involved in SPS and get them the support they needed for their classes, to where they are still involved in the program and now have the tools they need to get help when they need it. The second audience was the community. We reached out to the high schools in the area in hopes that we could influence more students to consider studying physics, in particular first generation students or students from underrepresented groups. We saw at least 175 high school students, ranging from 10^{th}-12^{th} grade, during all of our visits, and a number of them expressed an interest in STEM fields.

Context of the project:

We had previous Future Faces proposals that focused primarily on the mentoring aspects. We also had existing outreach activities. The renewed focus on getting first year students and underrepresented groups involved with physics dovetailed nicely with these initiatives, and current university-wide initiatives for student involvement and retention. We were able to combine existing resources and frameworks with the Future Faces proposal to get more done and reach more people.

Highlights and stories:

During one of our first high school outreach events of the year, the students were so curious and inquisitive that they actually suggested changes to our demonstrations that we implemented for most of the rest of the school year. This same group of students actually were responsive when we tried to do question and answer to make them think during the demonstrations, and they also had a lot of questions about our university that made the chair of our department glad he had also helped fund the event.

Impact Assessment: How the Project/Activity/Event Promoted Physics across Cultures

- Our assessment plan was two fold, with one section for each of our objectives.
  - For the outreach to the community, we aimed to observe how many people we impacted and how many SPS members helped us reach the public. We reached about 175 high school students, as well as about 100 members of the public through the outreach events. A total of about 10 SPS members helped at all the events. Given that our regular attendance at meetings is about 15, that is not a bad percentage who are involved in events.
  - For the mentoring program, we were going to administer surveys. No matter how many times we reminded people, they did not complete their surveys, so we could not adequately assess their perceptions of the program. From the perspective of the leadership in our chapter, getting students involved in extra events definitely helped to make the mentoring work better than expecting the freshmen and transfers to arrange a time and regularly meet with an upperclassman. Next year's program will likely involve more events, including some purely fun events.
- Our main goal was to increase diversity in physics and reach a diverse cross-section of the popluation about physics and science in general.
  - The mentoring program did help us retain more majors, which in the long run will increase the diversity by graduating more physics majors. There is room for improvement in the program, but each year it does get better.
  - The outreach events helped us to talk to African-Americans, Asian-Americans, Hispanics, and Iranian-Americans, just to name a few of the ethnicities and nationalities. We truly are reaching a large number of cultures with our outreach.

Key Metrics and Reflection

The Future Faces of Physics Award is designed to promote projects that cross cultures. What cultures did your project attempt to bring together?	*The area our school is located in has a rather large Hispanic and African-American population. In doing outreach, we spoke to many people from those cultures.*
How many attendees/participants were directly impacted by your project? Please describe them (for example “50 third grade students” or “10 high school volunteers”).	*~175 high school students* *~30 USM students who were regularly tutored* *~50 prospective freshmen* *1 freshman/transfer who was mentored*
How many students from your SPS chapter were involved in the activity, and in what capacity?	*About 10 of our members helped take turns mentoring the student and running the booths. The faculty sponsor and department chair were also heavily involved.*

Was the amount of money you received from SPS sufficient to carry out the activities outlined in your proposal? Could you have used additional funding? If yes, how much would you have liked? How would the additional funding have augmented your activity?	*While we had sufficient funding, it was in part due to our department's support. We can always use more funding in order to facilitate additional events and perhaps include events that are primarily there to foster community among the physics majors.*
Do you anticipate repeating this project/activity/event in the future, or having a follow-up project/activity/event? If yes, please describe.	*We would like to continue this in the future. Having the planned activities to bring freshmen along on helped keep them involved. We would like to make that a more integral part of the program next time.*
What new relationships did you build through this project?	*We actually had one of the prospective students we talked to become a physics major. This student recognized several of us in the first week of classes and is trying to make sure he stays plugged in to SPS.*
If you were to do your project again, what would you do differently?	*I think that next time, we should have events that are purely there to foster community among the new majors. Most of the mentoring interactions happened when we were at events together rather than trying to convince someone to come sit and talk for an hour or so.*

Expenditures

Expenditure Table

Item	Cost
Demonstration supplies for on-campus events	$80
High School Outreach (travel and supplies)	$100
Food at SPS meetings	$120

Total of Expenses	$300

While there were other expenses, the department took a shopping list and gave us supplies. Therefore, we have no record of the costs of those items.

Activity Photos

At a fair for prospective students. (L to R: Beau Roberts [member], Robert McGrath [secretary], Dr. Khin Maung Maung [department chair], Richard Rogers [member], Grant Tingstrom [treasurer])

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If you have any questions, please contact the SPS National Office Staff
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