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Center for STEM Inquiry: STEM Scholars Program

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Center for STEM Inquiry: STEM Scholars Program

Dr. Vicki-Lynn Holmes, Carrie Dummer, Susan Ipri Brown, Dr. Cathy Mader



Innovations

New course offering that blends Science and Math secondary methods during May term. Participants are STEM Scholars.

New requirement for STEM scholars to complete an intensive education action research project within the course framework

Field placement for STEM Scholars is immersive and comprehensive. They are the leaders of the classroom.

Expands offerings of Hope Science Camps to high school students

Expands opportunities for teachers to attend STEM workshops at Hope College

Expands the influence and presence of Hope College Science in the K-12 community

All curriculum is inquiry-based and aligned to the Next Generation Science Standards, which emphasize STEM topics and goals



Methodology

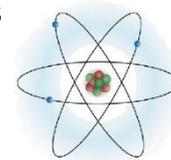
Development of an Inquiry-based STEM Methods course which was offered as a May term course

Co-developed and taught by Dr. Vicki-Lynn Holmes and Carrie Dummer

Meets the requirements of both the secondary education Science and Math methods courses

Included an intensive action research project that focused on a small area of pedagogy

Field placement requirement fulfilled by leading the high school academies



Recruitment of high school teachers and students to attend the workshops and academies

Susan Ipri Brown contacted local schools and Intermediate School Districts to recruit high school students and teachers for the programs

A wide variety of students and teachers from the greater Grand Rapids area attended

Logistical preparation and running of the workshops and academies

Two academies were offered in the summer of 2013:

Nuclear Forensic Investigations and Watershed Investigations

STEM scholars developed and refined curricular materials

Susan Ipri Brown and Dr. Cathy Mader assisted the STEM Scholars in preparing the materials and schedules

STEM Scholars led the academies alongside experienced teachers Drew Isola and Jennifer Soukhome

Results

- Example posters summarizing the research that the Hope STEM Scholars accomplished can be seen next to this display.
- This project gave the Hope STEM scholars experience in authentic STEM education research and helped them to develop skills that will enable them to be STEM instructional leaders as they enter the teaching profession.
- The high school students and teachers greatly appreciated the access to advanced instrumentation and subject level experts. Additionally, access to campus and college life, including listening to college students made a large impact on them. The majority of the students would like to return next year and even attend for multiple weeks.
- “I have grown leaps and bounds this summer as a future educator through the STEM research. Applying strategies and various pedagogical approaches learned in the Methods course has taught me a lot of what it takes to be a teacher. I feel more prepared and a lot more confident ...” - STEM Scholar

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