National Science Foundation – Math Science Engineering Partnership – Summer Experience for
Middle and High School Students
Colorado State University
College of Engineering and School of Education
CSU Facilitators – Dr. Thomas J. Siller, Aaron Benally, Dr. Michael A. De Miranda, Todd Fantz

June 8-13, 2008
Target Audience – Middle and Junior High School; grades 6-8

June 22-27, 2008
Target Audience – High School; grades 9-11

Topic: Artificial Intelligence: Computing, Designing and Robotics
Students will explore the many dimensions of engineering design, programming, and robotics.
Students will engage in the design, construction, analysis, programming and testing of their own smart
robot. Students will be challenged to build their own robots with program staff and college students.
This program is designed around informative work sessions, hands-on laboratory experiences, field
trips and expert guest speakers. Emphasis of this engineering experience is to demonstrate how math
and science are used to create the designed world.

June 15-20, 2008
Target Audience: Middle and Junior High School; grades 6-8

Topic: Clouds, Climate and Weather
Using an interdisciplinary approach, students will become experts on Clouds, Climate, and Weather.
They will learn how to “do science” by using observations and experiments, and will develop their
abilities to critically question topics in weather and climate. Such questions as “Do cities affect the
weather?” “Can it really rain fish and frogs?” and “Hey, what is the greenhouse effect after all?” will
be answered. Students will discover the secrets of Clouds, Climate, and Weather through participating
in a variety of learning strategies including art, storytelling, play writing, poetry, and video creation.
They will learn about the variety of careers, from science, business, law, communications, and many
more, that benefit from knowledge about the weather and climate. The program’s emphasis is on how
exciting and rewarding this area of study can be, and how they can apply their advanced knowledge of
Clouds, Climate and Weather in their future endeavors.

June 10-16, 2007
Target Audience: High School students; grades 9-11

Students will explore advanced concepts in alternative energy, focused on the future of hydrogen fuel
cell technology. Students will learn about the engineering and science design challenges faced in
bringing fuel cell technology into everyday use. Students will be challenged in the design, construction
and testing of a working hydrogen fuel cell. This session is designed around informative work
sessions, hands-on laboratory experience, field trips, and expert guest speakers. Emphasis of this
engineering experience is to demonstrate how math and science are used to create the designed world.

For more information, contact Aaron Benally at Aaron.Benally@Colostate.edu

Colorado State University’s summer experience includes career and educational guidance to
encourage students to set goals and prepare for their educational future.