Application part 1

Application form

Name _____

School _____

Email _____

Address _____

City _____

Phone (w/Area Code) _____

Grades taught _____

Subjects taught _____

Emergency Contact Name: _____

Emergengy Contact Phone number: _____

Please rank categories of interest below (1, 2, 3rd choices):

___ *Integrating Computational Science into STEM classes*

___ *Offering Engineering/Technology classes*

___ *Offering Computer Science classes*

___ *Sponsoring Supercomputing Challenge teams*

___ *Leading Project GUTS clubs*

How did you hear about the Summer Teacher Institute?

_____

_____

Please indicate any special assistance or needs if any:

_____

_____

(continue on reverse side)

The SC-GUTS Summer Teacher Institute
is presented by

CONTACT INFORMATION

Email the 2012 STI planners / managers:
David Kratzer, Celia Einhorn, Betsy Frederick,
and Irene Lee, at sti12@challenge.nm.org

Summer Teacher Institute Webpage:
   http://challenge.nm.org/sti

Supercomputing Challenge Website:
   http://challenge.nm.org

Project GUTS Website:
   http://www.projectguts.org

Sponsored by:

   Google CS4HS
   Los Alamos National Security

Hosted by:
   New Mexico Tech

Supercomputing Challenge and Project GUTS

Summer Teacher Institute 2012

A Computational Science and Computational Thinking workshop

July 15-20 on-site
July 23-27 online

New Mexico Tech
Socorro, NM

for teachers of 6th-12th grade

STI Description

For Teachers:

We will have two strands, one for teachers newer to computational thinking and computational science and another for teachers who have had experience with GUTS Clubs and/or Challenge Teams. There will be programming practice, discussions and presentations that include both groups and opportunities to build a community of practice.

The first week will be structured with programming and modeling lessons followed by project work groupings emerging as a focus towards the end of the week. Project work will continue the second week as teachers work together online using online media tools like Google Plus or locally in their home cities. At the end of the second week, we'll get back together to share the projects.

Content:

Computational Thinking
Data representation
Algorithms
Complex systems
Feedback loops
Computer programming constructs
Pedagogy for teaching computer science
Computer modeling & simulation
Experiment design
Data Analysis

Questions / Concerns?
Please email us at sti12@challenge.nm.org

Benefits

Benefits for Teachers:

- Participate in a professional learning community
- Enjoy camaraderie of peers throughout the state
- Develop techniques for project-based learning
- Acquire scientific inquiry skills
- Learn how to use computers to analyze, model and solve real world problems
- NMTech MST students can earn three graduate credit hours from NM Tech.
- Earn a small stipend for completion of the course. Registration, materials, room and board are free.
- Receive on-line and face-to-face support for projects
- Demonstrate competencies which may assist in the development of your Professional Development Dossier.

Benefits for Students:

Through computational modeling and computational thinking, students will develop skills, dispositions, and attitudes important in to all 21st Century learners including:

- Confidence with computing/technology
- Computer programming skills
- Using models in scientific inquiry
- Confidence in dealing with complexity
- Persistence in working with difficult problems
- Tolerance for ambiguity
- The ability to deal with open-ended problems
- The ability to communicate and work with others to achieve a common goal or solution

Application part 2

Principal consent (required)

☐ I give my permission and support to
_____ to implement
___ Computational Science activities during STEM classes taught by the applicant.
___ A Project GUTS club
___ A Supercomputing Challenge team

at _____ school during the 2012-2013 school year.

_____   _____
Signature of Principal   Date

Applicant intent (required)

☐ I intend to implement what I learned at the Supercomputing Challenge / Project GUTS Summer Teacher Institute during:
___ as a STEM teacher in the following classes:
_____

___ as a Project GUTS club leader
___ as a Supercomputing Challenge team sponsor
___ as a Project GUTS facilitator
___ as a Supercomputing Challenge facilitator

_____   _____
Signature of applicant   Date

✂ * Cut off this panel and send to Supercomputing Challenge, PO Box 30102, ABQ, NM 87190