

This position actually consists of two parts, Teaching Assistant and Counselor, each with its own responsibilities.

Teaching Assistant:

The responsibilities of a Teaching Assistant are:

- Attend and help with a specific subject area lecture.
- Prepare and help run lab sessions in this specific subject area.
- Oversee a specific team lab research project related to the specific subject area to which you are assigned.
- Attend special lectures and field trips related to subject area.
- Attend and help with at least one elective course.

3. In which subject area(s) do you feel most qualified to assist? (Check all that apply but indicate your preference.)

_____ **Physics**

Lecture Emphasis: Special & General Relativity
Particle Physics
Particle Physics/Cosmology Interface
Lab Emphasis: Superconductivity, Wave Optics, X-ray Diffraction, Neutron Activation

_____ **Chemistry**

Lecture Emphasis: Organic Chemistry
Molecular Structure
Aromatic Hydrocarbons
Examples of Reaction Mechanisms and Organic Synthesis
Lab Emphasis: Synthesis and Characterization of Transition Metal and Organic Compounds

_____ **Biology**

Lecture Emphasis: Molecular, Developmental and Cell Biology, Gene Expression
Lab Emphasis: Biochemistry, Cellular & Molecular Biology

_____ **Computer Science**

Lecture Emphasis: Fundamentals of Algorithms and Computer Programming
Abstraction, Recursion, Tree and Graph Algorithms, Algorithm Analysis
(Will likely be using C or Java on Macintosh computers.)
Lab Emphasis: Knowledge of parallel programming methods
Familiarity with Oakridge Laboratory's PVM library
and/or Fortran 90
Familiarity with html and WWW page authoring

_____ **Math**

Lecture Emphasis: Discrete Mathematics (Combinatorics & Graph Theory)
Lab Emphasis: MAPLE, a symbolic algebra computer package

4. For each of the above areas that you have checked, please explain your qualifications in relation to courses you have had and/or lab work that you have done in these areas.

Counselor:

The responsibilities of a Counselor are:

- Providing for the health and safety of the students.
- Monitoring homework and help sessions.
- Arranging social activities - including dorm and field trips
- Enforcing residence life dorm & curfew regulations.

5. Please explain any experience you have had in any of these areas and/or what you view as your primary focus in fulfilling these responsibilities.

Occasionally a problem arises that is dealt with by a counselor. Some examples of these are:

- Homesickness.
- Lack of social skills or personality conflicts.
- Excessive noise or other inappropriate behavior.
- Academic insecurity or inability.

6. Choose one of the above problems and explain how you would handle the situation.

7. Please identify two people who will act as references for your application. Inform them of your application to this program and have them forward letters of support for your application directly to the address below.

Name _____

Name _____

Address _____

Address _____

City _____

City _____

State/ZIP _____

State/ZIP _____

Phone No. _____

Phone No. _____

The dates for the 2002 session of PGSS are June 30 to August 3, 2002. Selected applicants will be expected to take up dormitory residency on the CMU campus by the morning of June 26. Living quarters are in the same dormitory as the PGSS students.

Selected applicants will not be permitted to have other part-time employment or take courses during the period of the PGSS.

Stipend: \$2,000. Free room is provided as well as a food allowance.

Application Deadline: January 30, 2002

Return to:

Barry Luukkala, University Director
Pennsylvania Governor's School for the Sciences
c/o Department of Physics
Carnegie Mellon University
Pittsburgh, PA 15213