SAMPLE

# Project Description & Justification

(This is an actual project description. Annotations in the margins indicate successful (and unsuccessful) elements of the "Project Description"; and apt information for the "Justification".)

Good description: tells who, what, where and why up front and clearly.

## PROJECT DESCRIPTION

Room 3590 LSB is a 939 ASF research lab which would be modified to make possible the teaching of monoclonal antibody technology. Required modifications include the removal of glassware cabinets and a laboratory bench. Install in the cleared area two six-foot Class II-B bio-hazard hoods, equipped with gas, vacuum, and four-plex electrical outlets. The hoods are to be supported by two six-foot sections of laboratory bench with laminated plastic tops, kneeholes, drawers, and cabinets below. Provide and install a six-liter, 220V power to operate the still, and a distilled water line to feed the still. Construct supporting shelves for water carboys. Install additional 220V power to operate a centrifuge. Walls and ceilings to be repainted.

Work to be done stated without undue detail.

Calls out special piece of equipment.

Ambiguous: doesn't clearly indicate the intention to provide double-distilled water. Reader has to guess or ask the question.

## JUSTIFICATION

Explanation of the academic context.

The extensive use of monoclonal antibody technology in many different areas of modern biological research such as biochemistry, molecular and cell biology, immunology, microbiology, neurobiology, and plant and insect pathology makes it essential that monoclonal antibody technology be included in the curriculum of the immunology teaching laboratories. Production of monoclonal antibodies involves long-term culture of the parent rat and mouse plasmacytomas used for cell fusion as well as the monoclonal antibody-producing hybrid cell lines. Since the parent cell lines used for the production of the desired hybrid cell lines are mouse tumor cell lines of unknown degree of hazard to humans, it is essential that students handling these cell lines do so in a biohazard hood appropriately designed to protect the operator as well as the work from contamination.

Brief description of procedural requirements.

Present lack of appropriate facilities.

At the present time the proposed immunology teaching laboratory has two four-foot laminar flow hoods and no bio-hazard hoods. The laminar flow hoods provide no operator protection and can be used by only two persons at one time. The two six-foot Class II-A bio-hazards hoods will need suitable cabinet and drawer space beneath to house the necessary sterile plastic ware for maintenance of cell cultures, thus the two six-foot lab benches are proposed for this installation. A still with supporting framework and 220 volt line is required to provide tissue culture grade water for preparation of media and washing of glassware.

How the project will benefit the program.

The facilities describe above will be used not only for the graduate immunology laboratory course now being taught but also for a laboratory course in molecular immunogenetics, and by undergraduate students in independent study and honors courses. They will also be used to provide demonstrations of monoclonal antibody procedures for the undergraduate immunology laboratory courses.