Mathematics Computer Laboratory for Individuals and Groups

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Although the University of Tennessee Mathematics Department has had a long-standing interest in the use of technology in the classroom, we did not have a suitable computer lab until we received funding from the NSF ILI-IG program last year. UTC contributed more than twice the amount we received from NSF, which allowed us to build a better and larger lab than we had anticipated,

network our building, and connect to the new campus fiber-optic backbone. We will have handouts of our budget, equipment details, and pictures of our lab at the poster session.

Our lab is set up as a computerized classroom with the computers, keyboard, mouse, and monitor under the computer tables; one views the monitors by looking through the glass top built into the tables. This setup allows the instructor to make good eye contact with all the students and makes the room suitable as a combination lab and classroom. We have found that three students can work effectively in a group at these tables using a single computer per group. Although getting permission to convert the room from its previous use as a large classroom to its current use was not easy, and sometimes unpleasant, we were able to secure a room for the lab which allows for 25 computer tables in four rows, with generous spacing between rows and a center aisle. As a result of the spacing, professors and our student assistants can move freely around the room to help students. We currently have 19 student computers, 1 faculty computer, and 2 HP 4M+ printers networked via ethernet with 10-Base-T.

The lab is used for courses in a number of ways: each student working individually at a single computer; students working as a group of two or three at a single computer; as a regular classroom; as an open lab for students to do assigned mathematics projects, work from other courses, use Internet, etc. (we purposely did *not* put a word processor on our server).

Since the faculty member running the lab has only a three hour course release, many of the activities of running the lab, such as computer repairs and regular maintenance, are performed by well-qualified student employees. These students are expected to be familiar with Maple, Matlab, Minitab, Windows, Dos, Mac OS, and various other applications, such as the Internet tools. They can install boards, make changes to configuration files, and troubleshoot problems that continually arise. The faculty lab supervisor has given these students the freedom and power to solve problems with the lab and they have made good contributions to the effective running of the lab in surprisingly wonderful ways.