

Laser Printing for Students

The University of Richmond, an independent private institution of higher education founded in 1830, is located in Richmond, Virginia. The institution is a Master's College and University I according to the Carnegie Classification. Over 92% of its 2,900 undergraduates live on-campus and attend one of three undergraduate schools: Richmond School of Arts & Sciences, Robins School of Business, and Jepson School of Leadership Studies. Additionally, Richmond School of Law has 460 full time students and the Richmond School of Continuing Studies and graduate schools have approximately 1,000 part-time students. Total FTE for the University of Richmond is about 3,800 students. William E. Cooper, Ph.D. is President and Herbert C. Peterson is the Vice President for Business & Finance. Jennifer M. Sauer is the Associate Vice President & Controller.

The advent of personal computers ushered in the need to print the content of files contained in the computers. Each generation of new technology changed the way printing was done. At the University of Richmond until academic year 2000-01 students printed as much as they wanted and as often as they wanted on computers located in public computer labs, in teaching computer labs, and in the libraries. Students were not charged a separate fee for such printing. Consequently printing in these areas was very heavy and costs were uncontrollable. Additionally students were asking for color laser printing and "resume quality" black and white laser printing. Since laser printing was "free," quality laser printing was not a priority.

During academic year 1999-2000, the computer lab manager in Information Services looked at options that were available to address these issues: unlimited free laser printing, poor quality laser printing, and color laser printing. There were a number of guidelines or constraints that any proposed solution had to meet. Only a small budget was available to purchase software or hardware needed to control student laser printing. Any human resources needed to implement and operate a system would have to come from existing staffing levels. The primary goal was to limit free laser printing. Regardless of how one limited the free laser printing, some students were going to want to print more. The process for allowing heavy laser printing users to purchase additional printing capability had to be developed and had to be simple. The handling, security and accounting of money had to be documented.

With that in mind, AND Technologies, Inc. had the appropriate software (Pcounter) at an affordable price. All of our students already had to log on to computers in the labs or in the library in order to use them. With Pcounter, when the student logs on to the computer in the labs or libraries, he or she is automatically logged on to Pcounter. When the student prints, Pcounter tracks the number of copies printed and updates the student's balance by subtracting the number of copies printed. One printed sheet equals one printing unit.

A student is given 400 printing units per semester and any unused units carry over to the next semester and even to summer school. At the end of summer school, prior to the beginning of fall semester, the printing units left are deleted and new balances for the fall

semester are entered. If a student uses all of his or her printing units, he or she can go to the library circulation desk and purchase additional printing units. The minimum purchase is 20 printing units for \$1.00. The number of free printing units per semester and the cost of printing units in excess of 400 per semester was determined with student involvement. Students were involved with the process from the beginning to the end.

The student demand for high quality laser printing increased when the quantity of “free” laser printing was limited. To address this quality laser printing issue, the twenty-five laser printers under the Pcounter program were put under preventative maintenance contracts, which required that the laser printers be serviced periodically (cleaning and replacing drums and so forth).

Last to meet the demand for color laser printing capability, two color laser printers were purchased, one for each side of campus. Users of the color laser printers are charged 10 printing units for each color laser page printed.

The financial impact of all of these changes is hard to measure. The Pcounter software for one server cost approximately \$500. The University already had a server to install the software and the one server for the twenty-five printers has been more than adequate.

Annual maintenance on the Pcounter software is \$150. The University spent money to purchase two color laser printers and the preventative maintenance agreements on the laser printers. On the savings side, the quantity of paper and toner cartridges used by the laser printers has been greatly reduced. On the revenue side, during the first year

students purchased \$2,400 worth of additional printing units. The overall cost under the new arrangement is thought to be more expensive but not significantly. For the extra dollars the academic program and students are being better served as a result of these changes. Students have access to better quality laser printing including color laser printing. The laser printers are going to last longer because the volume of printing is much less and the preventative maintenance agreements keep them in excellent working condition.