Spring 2016 Quarterly Report
Includes Review of 15-16 Annual Data
Computer Lab Management
Prepared by Tim Leamy

Computer Lab Management (CLM) operates 20 computer rooms across the UC Davis campus. These consist of 14 computer classrooms and 6 open access labs with a total of 622 installed stations. CLM also manages seven departmental computer rooms with 199 installed stations for the School of Education, the UC Davis Language Center, and The Arts Admin Group.

Some of the significant items from Spring 2016 include:

- The number of class hours increased by 3% from Spring 2015 (5761) to Spring 2016 (5,951.75). This was the highest value for a Spring quarter in CLM history and part of the overall trend of increasing classroom reservations.
- The annual data shows there was a huge jump of class hours scheduled in the computer classrooms - an increase of 53% over the past 5 years. The computer classrooms were reserved for 20,942 hours in 15-16, the highest annual total in CLM history. The growth is due to the addition of 3 new classrooms in SCC and Shields Library as well as more hours reserved in each classroom.
- The demand for computer classrooms is increasing as UC Davis faculty members continue to adopt and integrate more computer based educational technology into their classroom teaching. CLM cannot accommodate all the demand in our classrooms. Therefore, CLM is continuing to look for ways to add computer classrooms.
- The number of logins has remained fairly consistent over the past few years, but is lower than the peak in 08-09. The number of unique users is slowly increasing, most likely keeping pace with the increasing number of students. The decrease in number of logins has several likely causes:
  - The Fall 2009 printing rate change decreased printing demand and therefore logins.
  - Increased ownership of laptops and smartphones reduced student need for accessing a computer in a computer room.
  - Increased reserved class hours reducing the time available for drop-in student use.
  - Decrease of open hours – CLM dramatically cut evening and weekend available hours in response to budget issues.
- CLM prepared for Summer 2016 upgrades by purchasing hardware and software, implementing and testing software configurations, and developing a summer project plan. This summer we plan to upgrade Office 2016 and Adobe Creative Cloud.
- Use of the IET Virtual Lab continued to grow. It was used 10,614 times by 1,374 unique clients. It appears that more classes during Spring quarters use specialized software available in the virtual lab, so use is higher in Spring than other quarters.
- CLM conducted a faculty survey about computer room use. The results are posted at http://computerrooms.ucdavis.edu/pubs/survey/faculty_s16.html.

Spring 2016 Statistical Summary

Utilization

Overall computer room utilization

Computer Lab Management operates 20 computer rooms at UC Davis. The graph below shows average utilization for classrooms, open-access labs and all rooms for Monday through Thursday.

Average Utilization (M-R)
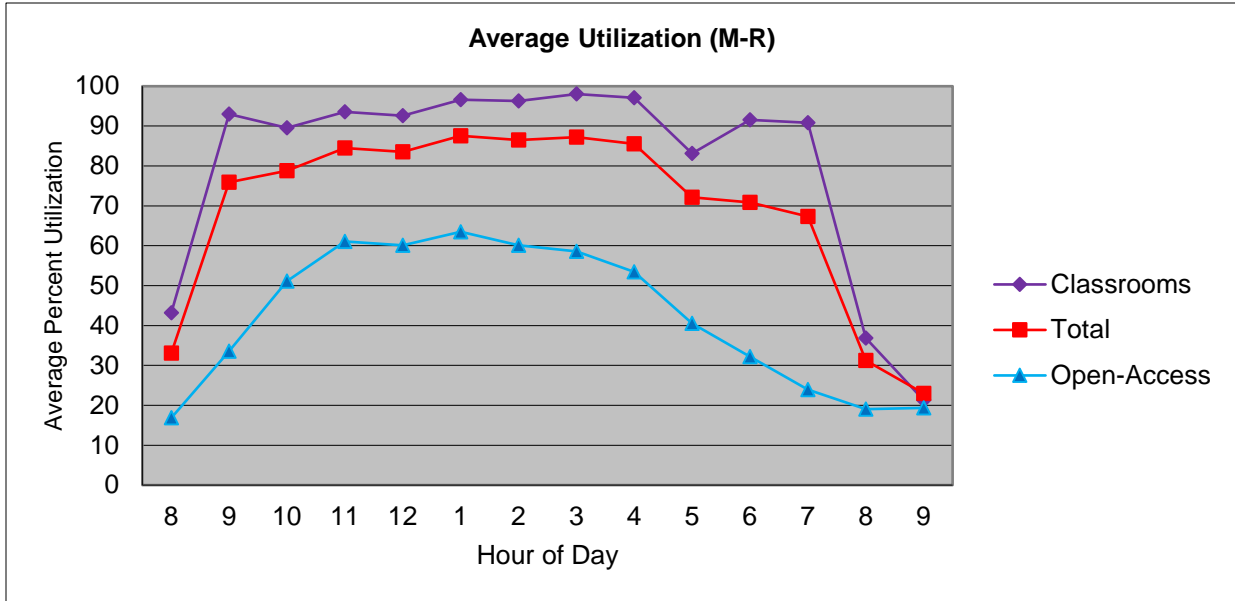
The general trend of high usage from 10am to 5pm continued during Spring 2016.   Classrooms use is very high – averaging 93% from 9am to 8pm. Open-access utilization is lower, but since the chart averages across the entire quarter it doesn't give a sense of peak use. Many of the open-access labs also experience wait lines during busy times of the quarter. The maximum wait line was 30 people waiting for a computer on June 2nd.

Class Use

During Spring 2016 there were 5951.75 class hours reserved in the computer classrooms. This is the highest amount for a Spring quarter in CLM history.

Spring Quarter Reservations
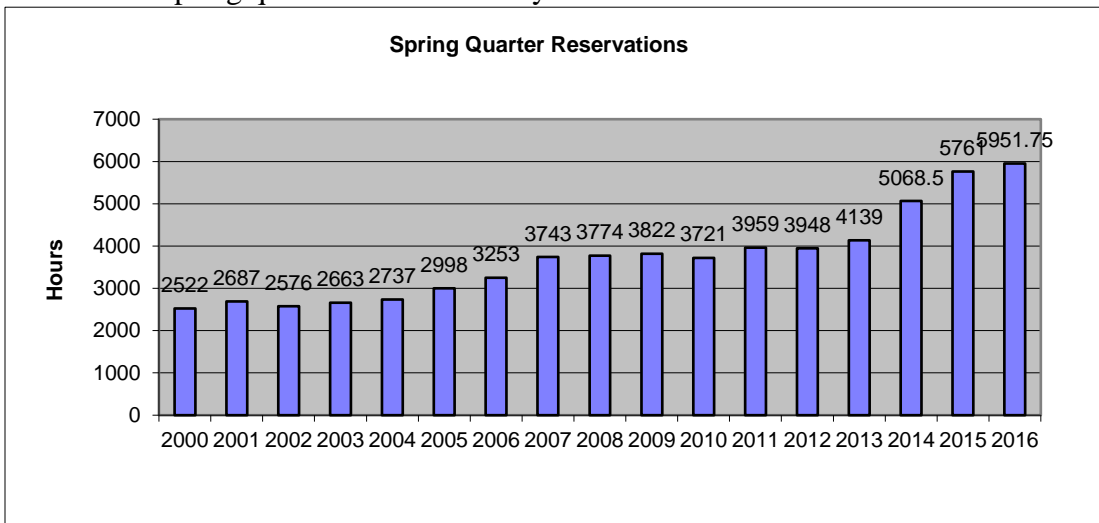
In addition, there were 222 class software installs and 160 class folders created during Spring 2016.

Number of Logins and Users

The total logins in Spring 2016 were 247,337, essentially the same as Winter 2016.

Total logins per quarter
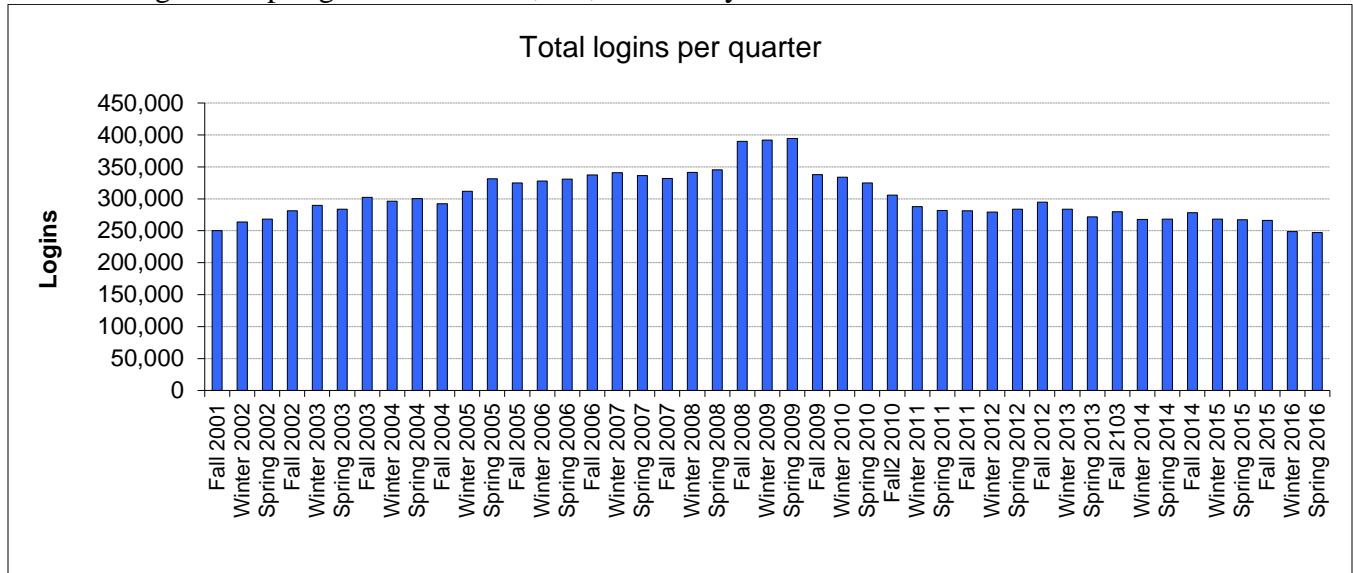
Unique Users

The number of unique clients decreased to 19,960 in Spring 2016. Of these, 19,431 were students. This was a decrease of 517 clients from Winter 2016. The decrease is normal as the total number of students at UC Davis typically drops from Fall to Spring quarter.

**Number of Unique Clients per Quarter**
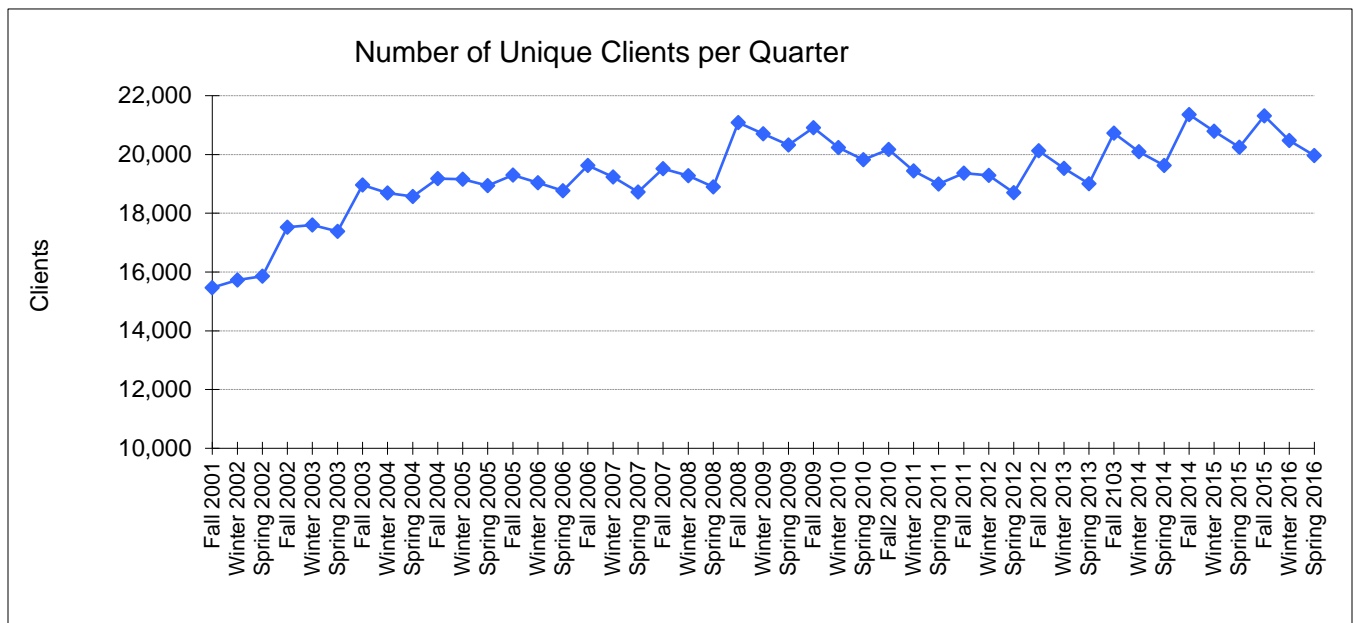
Virtual Lab Users

The IET Virtual Lab was used 10,614 times by 1,374 unique clients. Spring quarters show the highest use since there are classes which make heavy use specialized software available in the virtual lab which only meet in Spring quarter.
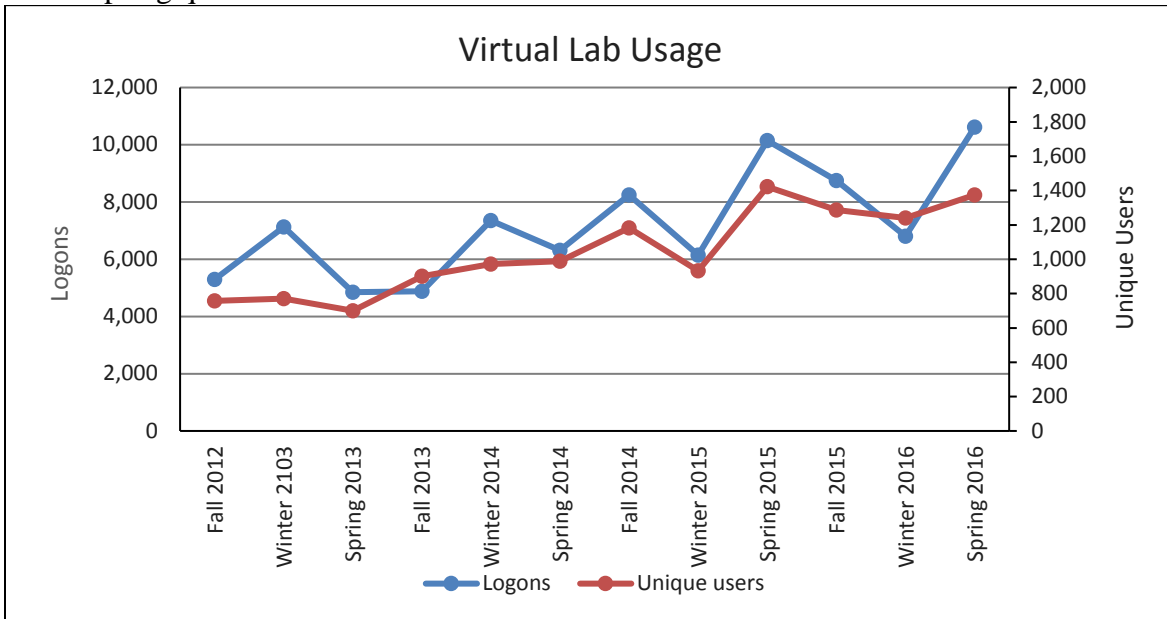

There were 5,572 denied connections to the virtual lab since there were no free stations. Amazingly 4,283 of the denied connections occurred a single day (Thu 6/2). Perhaps all the students waited until the last minute to do an assignment.

Printing

The total sheets printed in Spring 2016 decreased to 764,930 (an decrease of 3.0%). The average sheets printed per client (of those who printed) was 44.6. The large decrease from 08-09 was due to the change in printing rates at the start of Fall 2009.
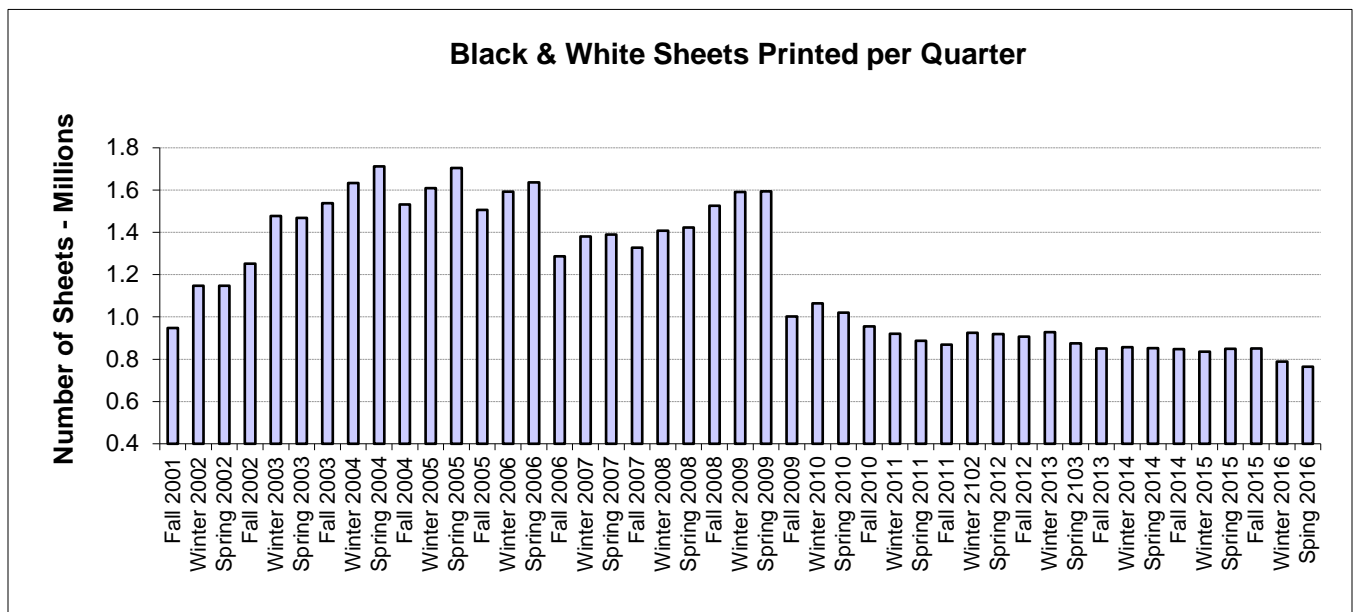
There were 12,410 color pages printed, an increase of 638 from Winter 2016.

Color Pages Printed
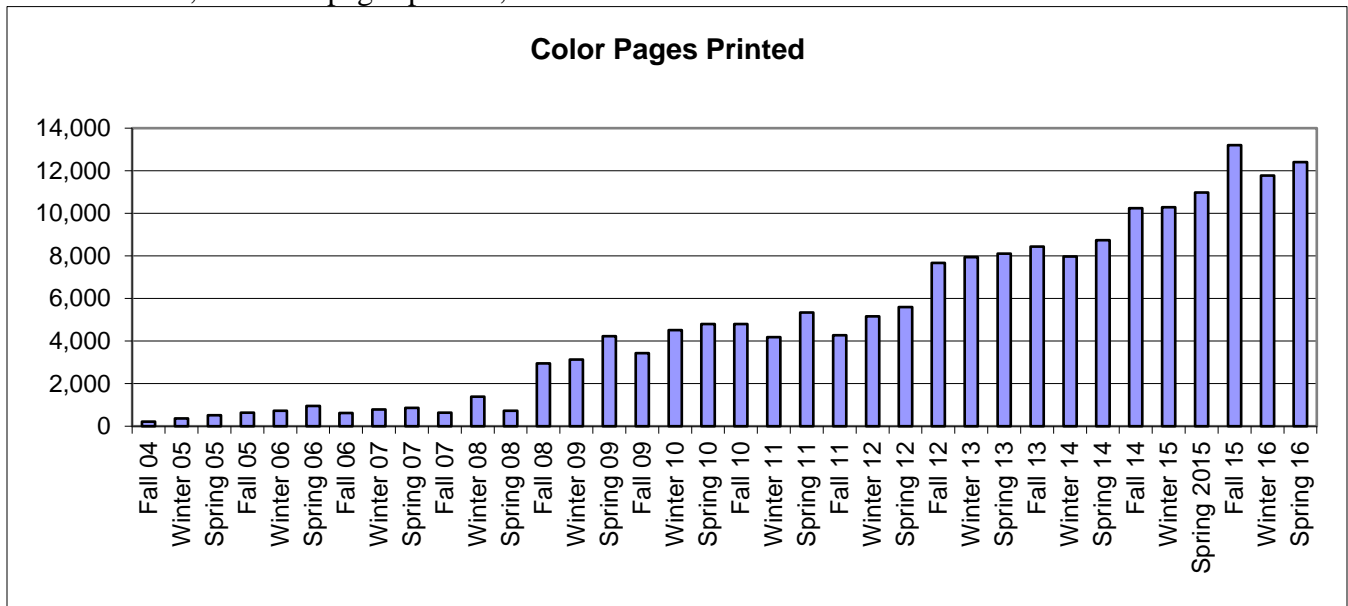
There were 3,747 wireless print jobs, essentially unchanged from Winter 2016. There were 478 unique clients who printed though the wireless printing system. The drop in wireless printing usage from the 08-09 level is most likely due in part to the overall drop in printing caused by the printing rate increase.

Wireless Print Jobs
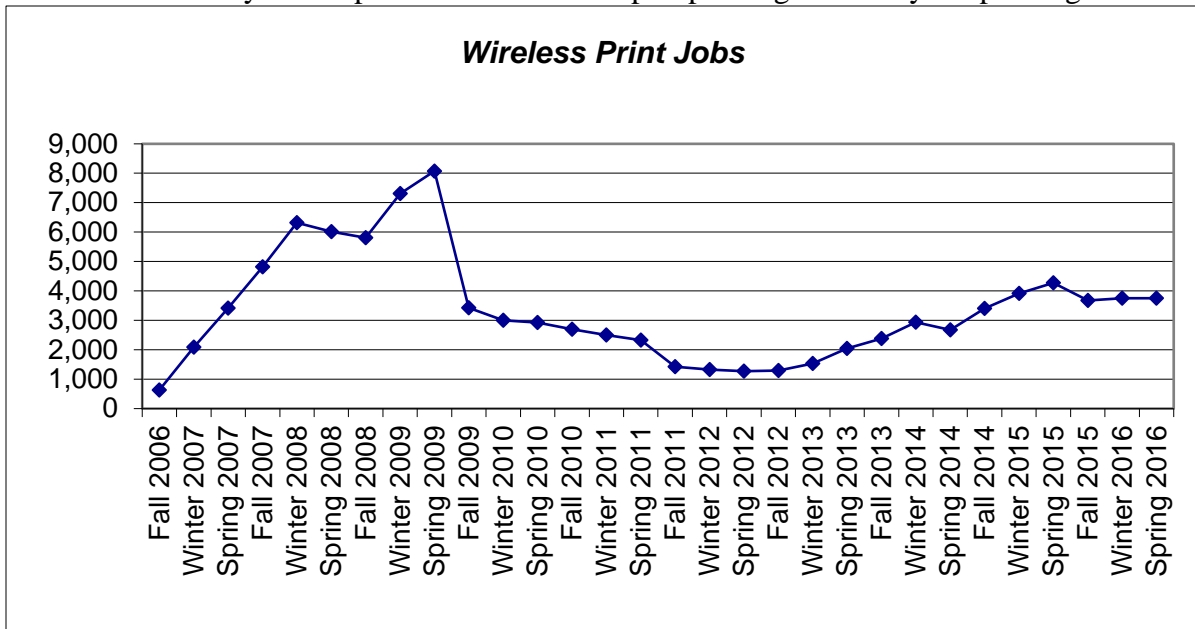
Review of Annual Data

CLM includes annual trends in this quarterly report since Spring quarter is the end of the academic year.

The overall computer classroom reserved hours increased dramatically to 20,943 in 15-16. There has been a large increase recently – 53% over the past five years.

Computer Classroom Reservation Trends
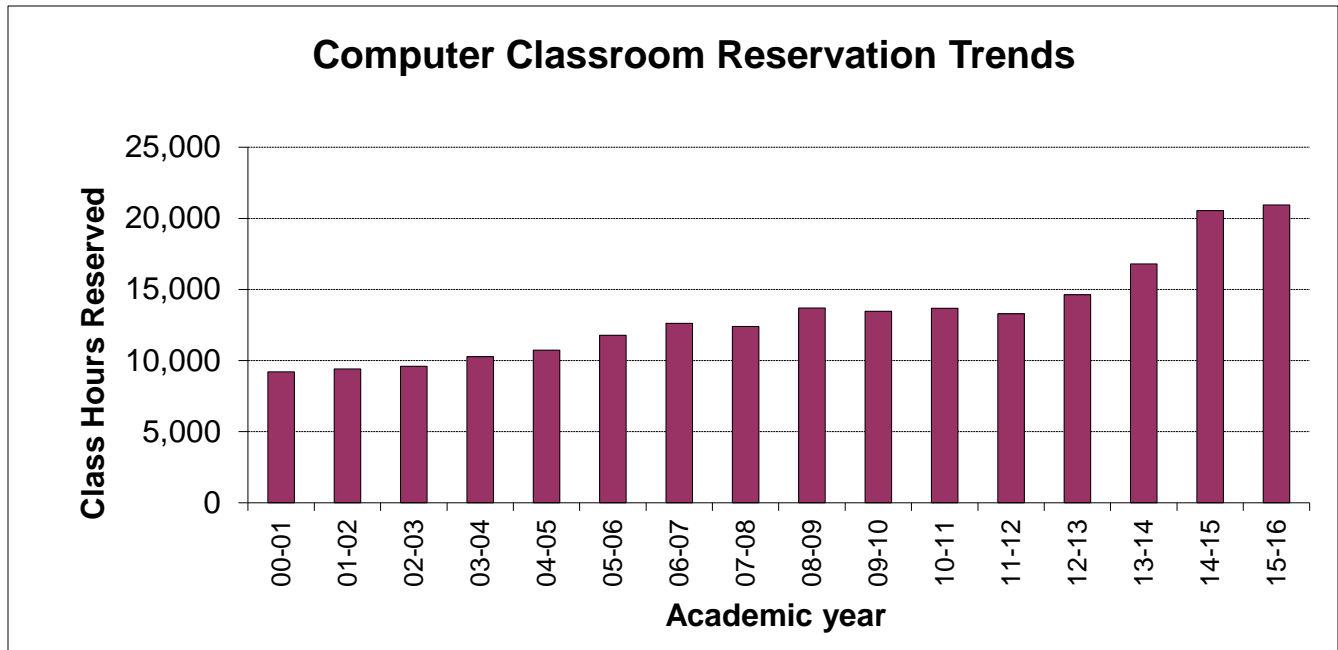
The growth is partially due to the addition of 3 new classrooms in SCC and Shields Library since 2012. However, the average number of class hours per week has also increased significantly to 43 hours per week over the past few years. The need for classrooms has grown so much that faculty and departments are willing to schedule classes at the less desirable times (evenings & Friday afternoon) which were avoided previously.

Class Hours per Week
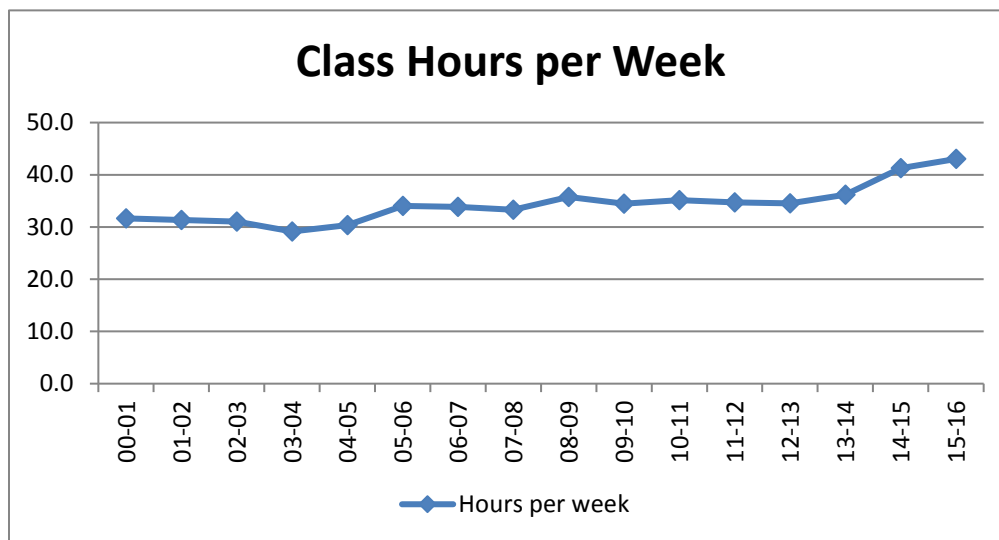
The total number of logins decreased by roughly 7% from 14-15 to 15-16 and the number of unique clients stayed roughly the same.

Logins and Unique Clients by Year
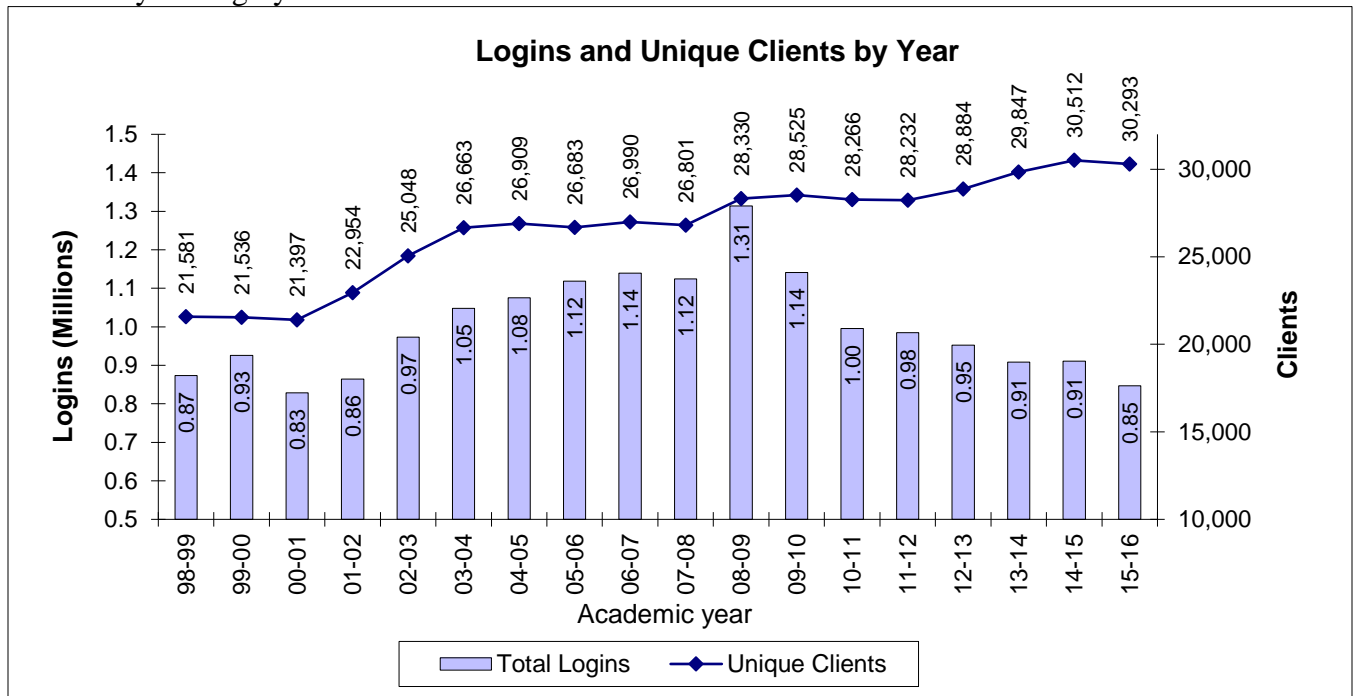
The decrease in number of logins from 08-09 has several likely causes:

- The Fall 2009 printing rate change decreased printing demand and therefore logins.
- Increased ownership of laptops and smartphones reducing student need for accessing the computer rooms.
- Increased reserved class hours reducing the time available for drop-in student use.
- Decrease of open hours – CLM dramatically cut evening and weekend available hours in response to budget issues.

The number of black & white sheets printed per year dropped dramatically from 08-09 due to the printing rate increase in Fall 2009. However, the sheets printed have roughly appeared to level out in recent years. We expected that sheets printed would drop significantly initially but then slowly increase as students become accustomed to the new rate.

Black & White Sheets Printed by Year
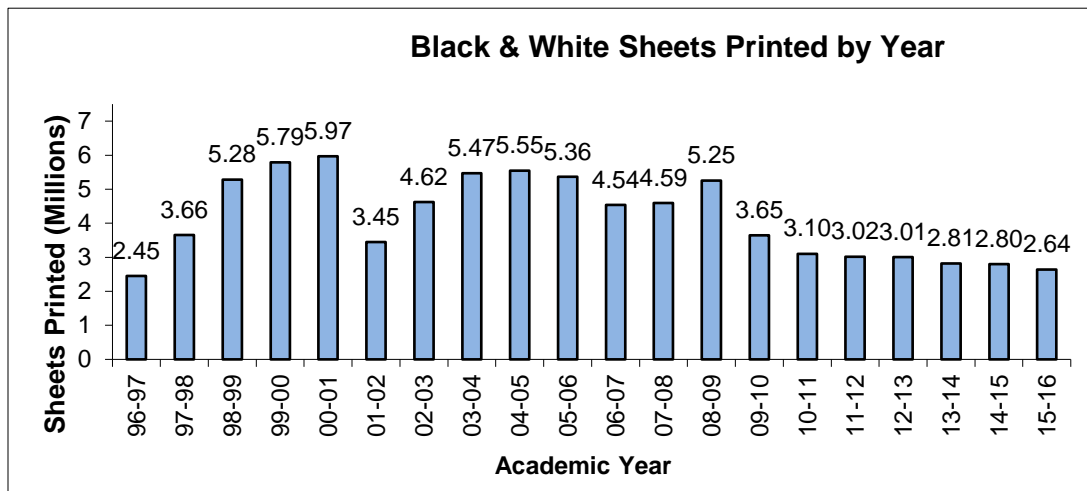
The number of color pages printed per year has grown dramatically over time.

Color Pages Printed by Year

A bar chart titled "Color Pages Printed by Year" showing the following values by year:
- 04-05: 1,089
- 05-06: 2,636
- 06-07: 2,481
- 07-08: 2,794
- 08-09: 11,224
- 09-10: 14,183
- 10-11: 15,673
- 11-12: 16,865
- 12-13: 25,635
- 13-14: 27,540
- 14-15: 33,899
- 15-16: 39,830