

## Outsource Modem Service? Committee Says Campus Must Provide New Options

Even though the campus modem pool has more than quadrupled in size in the past two years, callers still encounter busy signals. And those seeking modem service aren't the only ones complaining. At 10 o'clock at night it is difficult to get a phone line into campus — a situation which hinders service for dial-up alarm systems in off-

campus buildings. To handle the increase in modem traffic and help alleviate the busy signal problem, 72 new trunks were brought into campus Nov. 1, and 96 more trunk lines will be added by Nov. 15.

As one faculty member said, "It's not just frustrating; it's not safe."

The skyrocketing demand for network services is what's causing the congestion, and the campus cannot expand its modem pool enough to meet the ever-growing need. A special Modem Use Committee (MUC) formed last spring to examine the issue be-

*Continued on Page 3*

### Computer Labs Open at Night

Campus computer labs are open for student use during the evening hours. According to lab usage reports, vacancy rates in the labs are greatest between the hours of 7 p.m. and midnight. All labs managed by Information Technology



have access to the Internet. Further information on lab locations and hours is available on the World Wide Web at <http://lm.ucdavis.edu/>

### Call Modem Pool in the Morning?

Usage data compiled by I.T.'s Communications Resources suggests that the best time to call the modem pool is in the morning and early afternoon. Generally speaking, calls to the modem pool are heaviest during the late afternoon and evening hours — with heavy traffic beginning around 3:30 p.m. Modem pool usage is lowest between 2 and 7 a.m.

### Campus Directory Published

The 1995-96 UC Davis Campus Directory has been published, and copies are being distributed to campus departments. The directory includes listings for departments and individuals located on campus and at the UC Davis Medical Center in Sacramento. The Whois/Nickname Lookup Service found on the World Wide Web provides information included in the directory. The service is located at <http://www.ucdavis.edu/cgi-bin/whois>

### Technology Tip

You can also "look up" e-mail addresses for faculty and staff online by following these steps:

1. Login to the campus computing system.
2. At the prompt type: `ucdwhois` and the individual's last name.

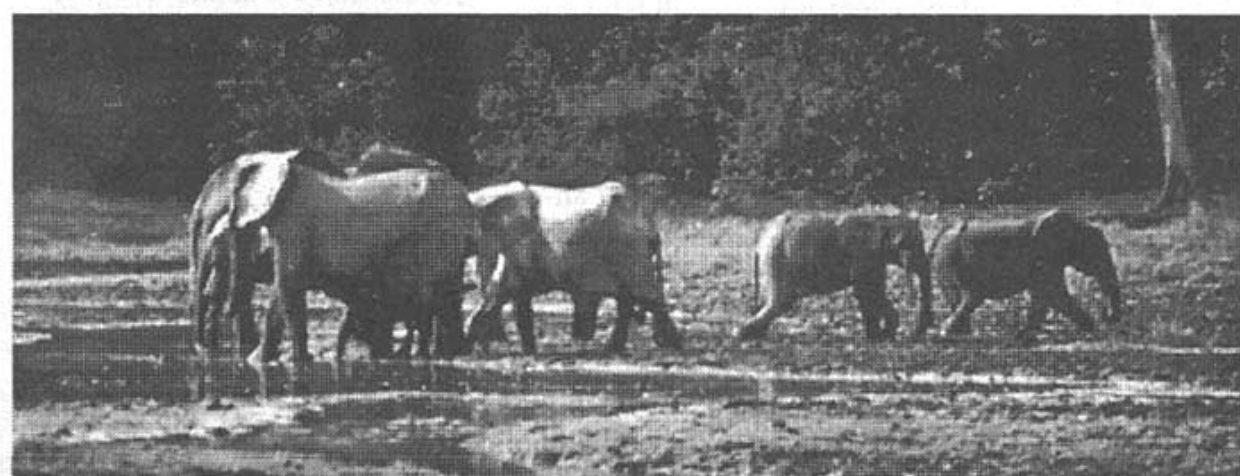
**Example:**  
`ucdwhois smith`

## Quotables

*"In the past, people came to the information, which was stored at the university. In the future, the information will come to the people, wherever they are."*

— Eli Noam  
Columbia University professor

*Continued on Page 2*



A band of forest elephants forage in a salt marsh in the newly created Dzanga-Sangha Reserve located in the Central African Republic near the Congo border.

Photograph by Susan Forkush

## Researchers Use GIS to Save the Elephants

by Anne Jackson, Information Technology Publications

From her computer station on the second floor of Wickson Hall, Karen Beardsley is helping count elephants half a world away.

Using the Geographic Information System (GIS) software ARC/INFO, Beardsley is refining estimates of

how many elephants remain in the Central African rainforest — a region where the closed tree canopy and dense undergrowth prevents elephant counting by either air or ground.

GIS—which is akin to a map on a computer — makes it possible to analyze data and display it visually on a computer screen. The advantage of

GIS is that various data layers can be combined to yield an overall analysis. In this case, Beardsley is using a digital representation of the roads that crisscross the rainforest of Gabon and incorporating other data layers to come up with elephant estimates. Because human activity drives elephants deeper and deeper into the forest, knowing where the roads and navigable rivers lie and factoring in other data can help predict elephant populations in any given forest region.

*Continued on Page 4*

## Incoming Students Come Prepared to Compute

How computer literate are UC Davis students?

The last time that question was studied, back in 1983, 46% of the students on campus were using computers and only 8% used personal computers. Now, a new survey reveals that virtually all incoming UC Davis freshmen say they had access to a computer during high school and that most plan to have a computer with them on campus.

Commissioned by Associate Vice Chancellor for Information Technology Carole A. Barone, the survey of incoming students was conducted by Student Affairs Research and Information.

"The results of this survey are in keeping with the goals of our faculty who are clearly moving in the direction of assigning more out-of-class activities that involve computing," said Marina Estabrook of the Teaching Resource Center. Estabrook, who coordinated the 1983 survey, just completed a sur-

vey on faculty use of media in teaching.

The recent survey of 1,235 freshmen entering UC Davis in Fall 1994 questioned students about their computing experience, skills, and comfort level with computers.

The findings:

► 99% of incoming UC Davis freshmen in 1994 said they had had access to computers at home (81%) or at high school (94%). About three-quarters had access both at home and at school, while 18% said they had access to a computer only at school.

► Nearly half of the students from families with annual incomes below \$30,000 said they had had access to a computer only at school, while among students from families with incomes of \$60,000 or more, 6% had access to a computer only at school.

► Ethnicity was also a factor in access to home computers during high school. Among white students, only 8% reported having access to a com-

puter only at school, while 46% of Chicano, 34% of Black, and 27% of Southeast Asian students said they had access to a computer only at school.

► Most of the students (83%) said they planned either to bring a computer with them to UC Davis, to buy one after they arrived, or both. That was true of 85% of the men and 81% of the women.

► Men prefer IBM/IBM clones; women prefer Macs. Some 68% of the men said they would bring an IBM/IBM clone to campus, compared to 53% of the women, while 30% of the women planned to bring a Macintosh to campus, compared to 23% of the men.

► Students with the lowest family income were the least likely to plan on having a computer at school. However, 74% of those who were worried about having enough money to finish school planned to own a computer while on campus.

*Courtesy of Edupage*

# Inside I.T.

## I.T. Upgrades Campus Computer Labs

The Media Production Lab in Meyer Hall was renovated this summer and reopened at the beginning of Fall Quarter with a new look and new equipment. Improvements include more functional workstations and new Apple PowerMac 7100 and Digital Pentiums complete with large 17-inch monitors. Many peripherals including flatbed scanners, magneto-optical drives, and a CD-ROM recorder have been added or will be shortly.

The Media Production Lab is located in 1154 Meyer Hall. Hours are Monday - Friday 8 a.m. to midnight;

Saturday, noon - 6 p.m., and Sunday, noon to midnight. For further information about the Media Production Lab call 752-5215.

The computer labs in 307 Surge IV and 247 Olson also were upgraded and now have Apple Powerbooks (550c models). The lab in 1131 Meyer was upgraded to Digital Venturis FP575.

To reserve labs for classroom use send e-mail to [lab-reserve@ucdavis.edu](mailto:lab-reserve@ucdavis.edu).

Further information on these labs and other computing labs, is available on the World Wide Web at <http://lm.ucdavis.edu/>

## Streamlining Electronic Mail Delivery

Those who check "envelope information" on electronic mail messages, will notice a subtle change this winter. That is, return addresses on all e-mail generated on campus will bear the same **mailid** format — first initial, middle initial, last name@ucdavis.edu. (See E-mail Address Formats inset.)

Return addresses of those sending mail from a Unix host (e.g. Pine) now are displayed in the **loginid** format — [loginid@host.ucdavis.edu](mailto:loginid@host.ucdavis.edu).

After the new year, even those sending mail from a Unix host have their return address posted in the **mailid** format (e.g. [jasmith@ucdavis.edu](mailto:jasmith@ucdavis.edu)).

The return address translation is being added to the campus e-mail system to provide a more efficient delivery system that will be implemented in January 1996. After the new year, mail addressed in either format — **loginid** or **mailid** — will be delivered to the same location. Furthermore, mail addressed with either the mail name or [login@ucdavis.edu](mailto:login@ucdavis.edu) name will be delivered.

If you have questions about the new e-mail delivery system, please contact Dave Zavatson at 752-7758 or [dhzavatson@ucdavis.edu](mailto:dhzavatson@ucdavis.edu). If you do not have a mailid, you can request one by sending e-mail to [postmaster@ucdavis.edu](mailto:postmaster@ucdavis.edu).

### E-mail Address Formats

Electronic mail addresses follow two different formats — the **mailid** format and the **loginid** format — both of which are illustrated here.

#### Mailid

This address uses the individual's mail name and domain. It is traditionally written in the format first initial, middle initial, last name and domain. The **mailid** does not change. If the addressee moves from department to department, the **mailid** moves, too, unchanged.

Example: [jasmith@ucdavis.edu](mailto:jasmith@ucdavis.edu)

#### Loginid

Your **loginid** is what you type at the login prompt when you login to the campus computing system. As the name implies, this address uses the login name, the name of the system from which the mail is being sent, and the domain.

Example: [fzsmith@peseta.ucdavis.edu](mailto:fzsmith@peseta.ucdavis.edu)

## Using Telephone Skills to Provide Good Service

Marsha Readdick's job is to help the campus get the most out of its telephone system.



Marsha Readdick

As one of Communications Resources' three customer service representatives, Readdick handles telephone and voice mail needs for campus departments, helping

them with such tasks as planning office moves, configuring multiline telephones, and setting up automated attendants—systems that answer callers' questions automatically or route them to the appropriate staff person.

She has another specialty as well—teaching telephone skills.

"Departments wanted to know if we taught telephone etiquette, so I developed a course that focuses on providing the best service you can on the telephone," says Readdick. "We do role-playing and present a list of dos and don'ts." The course is offered once a year through Staff Development and by special arrangement to individual departments.

To keep up with her many responsibilities, Readdick says she turns to technology. Recently she set up a listserv for Area Telephone Representatives (ATR), which enables Communications Resources to use e-mail to communicate directly with all ATRs across campus. The next step she says, will be to put the ATR manual and forms online, so that departments can make changes in telephone and voice mail service electronically.

## At Home on the Web

### Information Center for the Environment

<http://ice.ucdavis.edu/>

The Information Center for the Environment home page contains information about the Center and its many supporters, as well as discussing a number of current projects (including the California Rivers Assessment, the California Watershed Projects Inventory, the John Muir Exhibit). Other links:

- California Environmental Resources Evaluation System (CERES)
- California Inland Invertebrate Work Group
- U.S. Long-Term Ecological Research Program (LTER)
- Web resources available through ICE
- Assorted Items Related to Environmental Protection
- UC, UCD and Davis Information
- Weather: Local, National, and Global

### Network Etiquette Guidelines

<http://ds.internic.net/rfc/rfc1855.txt>

The Network Etiquette Guidelines, produced by the Responsible Use of the Network (RUN) Working Group of the IETF, offers a basic set of guidelines for network etiquette which can be adapted by any organization for its own use. These guidelines discuss one-to-one communication, one-to-many communication, information services, and security considerations. A bibliography for further reading is also included.

### Public Communications: News and Communications

<http://acs-macserv.ucdavis.edu/PubComm/>

This page includes links to UC Davis news (breaking news, research and general campus news releases), UC NewsWire (national news stories related to or involving the UC system), a News Media Service page (still under construction), and text versions of *Date-line* and UC Davis magazine. You will also find listings of campus seminars and events, and a series of facts about UC Davis (including campus life, how UC Davis ranks, research and cultural programs, the history of UC Davis, UCD administration, and contact or visiting information).

— Compiled by Bonnie Johnston

Do you have a home page you would like published? Send your submissions to us at [itpubs@ucdavis.edu](mailto:itpubs@ucdavis.edu)

## Incoming Students Come Prepared to Compute

From Page 1

▶ Almost all freshmen entering the Colleges of Engineering (89%) and Agricultural and Environmental Sciences (87%) planned to either bring a computer to campus or to buy one here. In the College of Letters & Science, 83% of incoming students planned to purchase a computer, whereas in the Division of Biological Sciences, 77% said they would have a computer on campus.

▶ Nearly all students (92%) said they used word processing programs at least two or three times a month.

▶ Spreadsheets were used less than other applications. Only 19% of all students reported using spreadsheets at least once a month.

▶ One in five of the students (22%) said they surfed the Internet or used other online services at least once a month during the last year of high school, with 29% of the men and 16% of women reporting such use.

▶ Most students (72%) said computers were not too technical for them to understand. Among men, 80% expressed that belief, compared to 67% of the women.

▶ About 75% of the students, an equal percentage of men and women, said that computers helped them complete work faster.

"From this survey we may assume that high schools and parents have successfully introduced incoming stu-

dents to the increasing role computers play in society, and that the University now must build on that introduction," says Kevin Roddy, a lecturer in the Medieval Studies Program and the Academic Coordinator for Information Technology.

"We are in the position of being challenged by our own students to use computers more effectively in our teaching and in our service," Roddy added.

You may order a complete copy of the survey via that World Wide Web at <http://sariweb.ucdavis.edu/>

For further information call Roberta Grant in Student Affairs Research & Information at 752-3889.

# Committee Recommends Outsourcing Modem Service

From Page 1

believes outsourcing modem service is the most viable option for the Davis campus.

In the past year, 240 modems have been added to the campus modem pool, bringing the total to 507. On Wednesday, Oct. 18, daily calls peaked at 27,520 — 151% of last year's peak reached on Thursday, June 8.

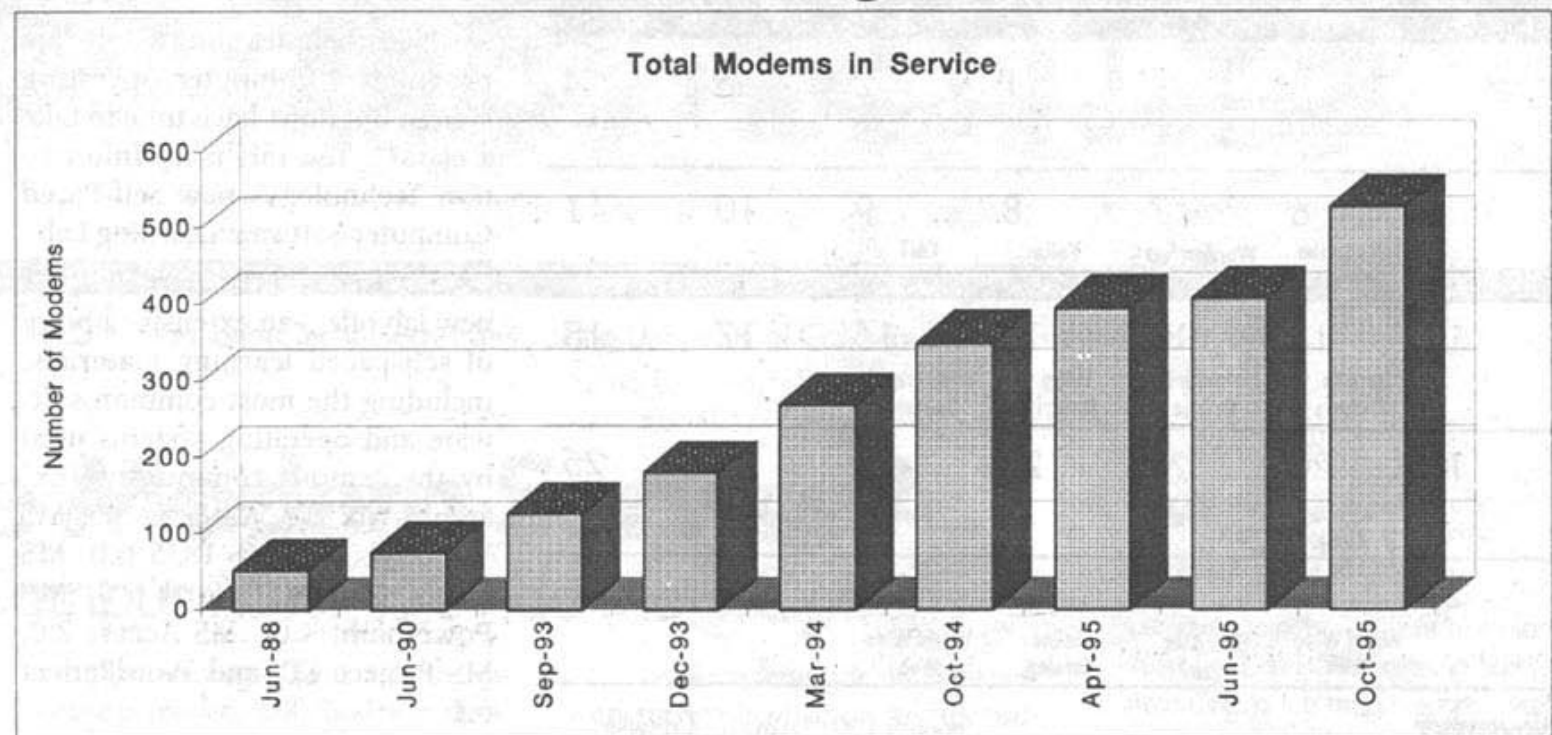
"It's a bad situation and something has to be done ASAP," says David Roche, chair of the 1995-96 Joint Campus Committee on Information Technology (JCCIT).

"UC Davis is one of many institutions across the country that must look at an efficient and effective way of providing modem service to the campus," says Carole A. Barone, Associate Vice Chancellor for Information Technology. "We are investigating the MUC's recommendation to outsource modem service and are in the process of soliciting Request for Quotes from MCI, AT&T, NetCom, and other vendors.

"It is likely that a mix of free and subscription services will be offered," says Barone.

Doug Hartline, Chief Operating Officer for the Division of Information Technology, cautions departments against finding interim solutions. "Our goal is to implement a solution that provides efficient and reliable modem service as soon as possible," says Hartline. "Departments which try to 'skirt' the issue by installing their own modems will only complicate the problem because the campus communication system will still be overloaded with calls from off-campus," he adds.

When the modem use issue surfaced last spring, the JCCIT organized the MUC. Geoffrey Wandesforde-Smith chaired the committee that was charged with suggesting alternative ways of providing modem service. Committee members included Caroline Bledsoe, Paul Davis, Kathy Dixon, Richard Falk and Rodger Hess



(ex-officio).

The MUC's recommendation to outsource modem service is being reviewed by the JCCIT and the CAPBR (Committee on Academic Planning and Budget Review).

The recommendation to outsource modem service is based on the findings included in a report prepared by Paul Davis. Here are just some of the MUC's findings:

- Expenses for modem support, once virtually nothing, now exceed \$300,000 a year. At the current rate of growth, within two years modem expenses could surpass the expenses associated with running the entire campus network.

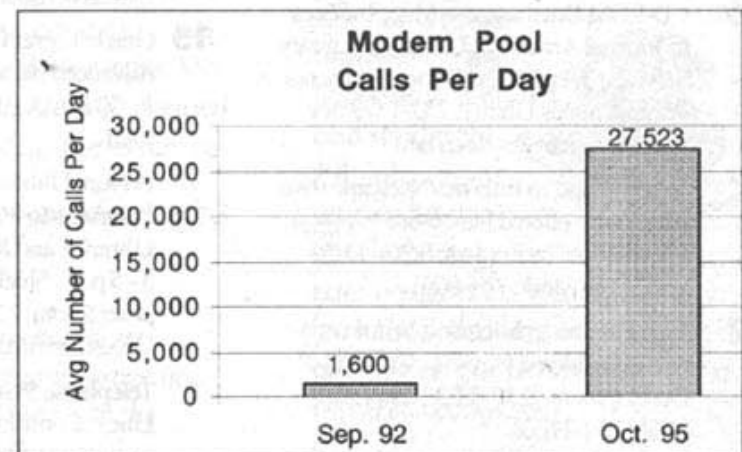
- The campus has exhausted available space for new modems, and 30 percent of the voice system battery is commissioned to provide backup power to the modem pool.

- Approximately 220 of the 350 trunk lines connecting the campus telephone switch with Pacific Bell are used to service calls to the modem bank from off campus. (To handle the increase in modem traffic, 192 more trunk lines are being added to campus.)

- Campus telephone users now

*The campus cannot expand its modem pool enough to meet the skyrocketing demand for network services.*

Graphs by Diana Foster



pay for the modem bank — a subsidy that is risking the quality of campus phone service. The telephone rates were established to pay for service and maintenance of the campus telephone system, and now money earmarked for that service is being diverted to cover the costs of campus modem service. Recent calculations show that each campus telephone user is now paying \$37 a year to subsidize the modem service.

- Campus telephone users are less likely to use the modem pool than students and other community members at large. Campus faculty and staff will increasingly have a direct connection to the campus network and, therefore, do not need to use the modem bank during the day.

Recent statistics show that nearly 75% of the calls to the modem pool come from off campus. About 80% of the callers are students, 5% are faculty, and 14.5% are staff.

Peak daytime use is on Monday, and peak nighttime use is on Thursday.

Each of the modems in the campus pool answers between 37 and 95 calls per day. The average call duration is 12 minutes for general dial-up modems and 29 minutes for SLIP/PPP service.

Any comments or suggestions regarding the issue of outsourcing campus modem service are welcome. Send e-mail to Doug Hartline at [jdhartline@ucdavis.edu](mailto:jdhartline@ucdavis.edu).

## PROJECT UPDATE

# NetWork 21

### Briefing for Primary Contacts

Primary contacts for the Network 21 project attended a project briefing on Oct. 25. Appointed by Deans and Vice Chancellors, the primary contacts serve as liaisons between campus departments and the Network 21 project management team. The following individuals are serving as primary contacts for the Network 21 project: Joann Brooks, Graduate School of Management; Paul Drobny, College of Letters & Science; John Finazzo, University Relations; Tom Fortis, College of Engineering; Lynn Gore, Office of Student Affairs; Tom Kaiser, College of Agriculture; Len Olin, University Ex-

tension; Felicie Ramey, Chancellor's Office; Paul Rivette, Office of Administration; Billy Sanders, College of Engineering; Dave Shelby, Division of Biological Sciences; Becky Stratman, UCDCM; Leslie Sunell, Graduate Studies; Raymond Tai, School of Veterinary Medicine; Scott Vosburg, Office of Research.

### Closet Upgrades

Renovation continues on campus communication closets. Nearly all communication closets in Area 3 have been brought up to project standards, and contractors are beginning to renovate closets that will house ATM switches.

### Fiber Negotiations Underway

Negotiations are currently underway to finalize a contract for installation of Network 21's fiber optic cable.

### Network Operations Center

Remodeling continues on the "nerve" center for Network 21 — otherwise known as the Network Operations Center (NOC). Located in I.T.'s Communications Resources, the NOC is being renovated in preparation for Network 21. The NOC will be divided into two areas. One area will be devoted to monitoring network status and performance and dispatching repair and maintenance services. The second area of the NOC will house central terminations for the Campus fiber optic cable system, the central electronics for Network 21, and a future campus

video switching system. Renovation is slated for completion in late December. In the meantime, you can still report network difficulties by calling 752-7656 or sending e-mail to [itnetop@ucdavis.edu](mailto:itnetop@ucdavis.edu).

### LAN Integration

Departments with Local Area Networks have asked how they will technically transition to Network 21. Information Technology is now preparing a cutover plan, which will outline all the steps necessary to transition departments from traditional LANs to Network 21. I.T. will then work directly with departments to determine individual requirements and develop customized transition plans to migrate from existing LANs to Network 21 facilities. You will be contacted, and can look for more information on the LAN integration process in future editions of the *I.T. Times*.

## I.T. CALENDAR

NOVEMBER 1995

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
	Intro to the Internet	Wordperfect for Windows	Voice Mail	CAIT Presentation		
12	13	14	15	16	17	18
	Intro to Windows	Network 21 Update	Using Melvyl	Bibliographic Database		
19	20	21	22	23	24	25
	Intro to Excel	Eudora	Thanksgiving Holiday			
26	27	28	29	30		
	World Wide Web	Filmaker Pro	Online Catalog	World Wide Web		

## November

- 6** CD-ROM Databases — More Indexes to Journal Articles at UC Davis: Library Services, 3-4 p.m., 2nd Floor Instruction Room, Shields Library; 752-1678 or e-mail [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- Introduction to Internet/Netscape (two-part course offered Nov. 6 & 8): Information Technology; 8:30 - 11:30 a.m., 1440 Mrak; 754-8091.
- 7** Introduction to Microsoft Word (two-part class offered Nov. 7 & 9): Staff Development, 8:30 - 11:30 a.m., 40 Mrak; 752-1766.
- Introduction to WordPerfect for Windows (two-part class offered Nov. 7 & 9): Staff Development, 1:30 - 4:30 p.m., 40 Mrak; 752-1766.
- Modem Access Using Trumpet Winsock: Information Technology and Staff Development, 12 noon - 1 p.m., Cabernet Room, Silo.
- Basic Melvyl Library System Commands: an Introduction to the Online Book and Journal Catalog at UC Davis: Library Services, 2 - 3 p.m., Shields Library Microcomputer Room; 752-1678 or e-mail [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- 8** Voice Mail System Training: Communications Resources, 10:30 - noon, Communications Building, Tercero Hall Circle, 752-6888.
- 9** CD-ROM Databases — More Indexes to Journal Articles at UC Davis: Library Services, 11 a.m. - noon, Carlson Health Sciences Library; 752-1678 or e-mail [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- SGI: Alias Wavefront — Silicon Graphics User Group Seminar: Center for Advanced Information Technology, 10 a.m. - noon, CAIT - 1st floor Shields; 752-5711.
- 13** Personal Bibliographic Database Programs to Manage Your Own Libraries and Reprints: Library Services, 3 - 5 p.m., Shields Library Microcomputer Room; 752-1678 or e-mail [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- Introduction to Windows 3.11 (two-part class offered Nov. 13 & 15): Staff Development, 1:30 - 4:30 p.m., 40 Mrak; 752-1766.
- 14** Network 21 Update: Information Technology and Staff Development, 12 noon - 1 p.m., MU II.
- Introduction to PageMaker (two-part class offered Nov. 14 & 16): Staff Development, 8:30 - 11:30 a.m., 40 Mrak; 752-1766.
- Voice Training at Research Park: Communications Resources, 10:30 -

noon or 1:30 - 3 p.m., 104 University Extension Building, 752-6888

- 15** Oracle Power Objects: Center for Advanced Information Technology, 10 - 11:30 a.m., CAIT - 1st floor Shields; 752-5711.
- Personal Bibliographic Database Programs to Manage Your Own Libraries and Reprints: Library Services, 3 - 5 p.m., Shields Library Microcomputer Room; 752-1678 or e-mail [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- Telephone System Training (Single Line): Communications Resources, 1:30 - 3 p.m.; 10:30 - noon (multiline course), Communications Building, Tercero Hall circle, 752-6888.
- 16** Personal Bibliographic Database Programs to Manage Your Own Libraries and Reprints: Library Services, 11 a.m. - 1 p.m., Carlson Health Sciences Library; 752-1678 or e-mail [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- 20** Introduction to Excel (two-part class offered Nov. 20 & 22): Staff Development, 8:30 - 11:30 a.m., 40 Mrak; 752-1766.
- Introduction to Microsoft Project (two-part class offered Nov. 20 & 22): Staff Development, 1:30 - 4:30 p.m., 40 Mrak; 752-1766.
- 21** Electronic Mail Using Eudora: Staff Development, 8 a.m. - noon, 40 Mrak; 752-1766.
- 27** Resources on the Internet — The World Wide Web: Library Services, 3 - 4 p.m., Shields Library Microcomputer Room; registration by e-mail required: [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- 28** Introduction to Filmaker Pro (two-part class offered Nov. 28 & 30): Staff Development, 8 a.m. - noon, 40 Mrak; 752-1766.
- Introduction to Internet Using Netscape (two-part class offered Nov. 28 & 30): Staff Development, 1:30 - 4:30 p.m., 40 Mrak; 752-1766.
- 29** Remote Computer Use of the Online Catalog and Journal Indexes: Library Services, 2 - 3 p.m., Shields Library Microcomputer Room; 752-1678 or e-mail [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).
- 30** Resources on the Internet — The World Wide Web: Library Services, 11 a.m. - noon, Carlson Health Sciences Library; registration by e-mail required: [klfirestein@ucdavis.edu](mailto:klfirestein@ucdavis.edu).

## December

- 4** Introduction to Windows 3.11 (two-part class offered Dec. 4 & 6): Staff Development, 8:30 - 11:30 a.m., 40 Mrak; 752-1766.
- 5** Understanding Netiquette: Information Technology and Staff Development, 12 noon - 1 p.m., MU II.
- Introduction to Excel (two-part class offered Dec. 5 & 7): Staff Development, 8:30 - 11:30 a.m., 40 Mrak; 752-1766.
- Introduction to Microsoft Word (two-part class offered Dec. 5 & 7): Staff Development, 1:30 - 4:30 p.m., 40 Mrak; 752-1766.

## Ready to Enroll?

If you wish to enroll in a class offered by Staff Development & Professional Services, you must complete an Application for Enrollment. Applications appear on Page 95 of the Staff Development Catalog. To request an application, call 752-1766.

## New Lab Offers Self-Paced Learning for Computer Users

Need help learning a software program or computer operating system but don't have time to take a class? You might try Information Technology's new Self-Paced Computer Software Learning Lab.

Located in 1101 Hart Hall, the new lab offers an extensive library of self-paced learning materials, including the most common software and operating systems used by the campus community. Examples are MS Windows 95, MS Windows 3.1, MS DOS 6.0, MS Excel 5.0, MS Word 6.0, MS Powerpoint 4.0, MS Access 2.0, MS Project 4.0, and WordPerfect 6.1.

The learning materials are video-based and range in level from introductory to advanced. Workbooks and self-paced tests are included.

The self-study materials are available for viewing only within the lab, although for group instruction, faculty and staff can make special arrangements to check out materials overnight.

The Self-Paced Computer Learning Lab is open Monday-Friday from 8 a.m. to midnight.

For questions, or to arrange overnight checkout for group instruction, call 754-8091. Or send e-mail to [learnit@ucdavis.edu](mailto:learnit@ucdavis.edu).

## Saving the Elephants by Computer

From Page 1

The information is urgently needed. Beginning in the mid-1970s, an upsurge in ivory poaching decimated African elephant populations, killing an estimated 10,000 elephants a year, and cutting the numbers of Central African forest elephants about 44% overall by 1994 — an attrition rate that if it were to continue would eliminate elephants from the equatorial forests of Africa by around the turn of the century.

Beardsley and her colleagues hope the GIS analysis, by providing more accurate estimates of how many elephants remain, will spur Central African countries to establish protected areas and help save the elephants from extinction.

Researchers have been using GIS to estimate elephant populations since 1986, when the United Nations Environment Program developed its African Elephant Database Project. That project began by surveying people throughout the continent who estimated elephant populations from a wide range of information, including aerial counts.

But because actual counts were available for only one-third of the known elephant range, scientists have since been engaged in a long process of refining the database as new information is developed. Now incorporated into the earlier GIS database is information on vegetation, rainfall, protected areas, human density, and tsetse fly range. The latter is significant because tsetse flies discourage cattle production and human presence, but do not affect elephants. Tsetse fly range can therefore help predict where elephants might be found.

"Having this database has helped push forward a lot of conservation efforts," says Beardsley. "GIS enables scientists to store information about elephant populations on a continental scale, which allows people to update, retrieve, and store estimates and to do modeling. That, in turn, allows us to see better what population trends are going on."

Now the GIS Coordinator in the UC Davis Information Center for the Environment, Beardsley became involved with the project in 1989 af-

ter a two-year stint with the Peace Corps in Kenya. Living in Nairobi, she worked with Dr. Richard Barnes of the Wildlife Conservation Society to apply a new model Barnes devised for estimating elephant populations.

By building on and combining existing data, GIS makes it possible to calculate elephant numbers in remote areas faster and at a fraction of the cost of field work. Although some field work is still necessary, GIS significantly speeds the process and reduces the overall expense.

Barnes, Beardsley, and their colleagues now estimate the elephant population in Central Africa to stand at 171,334, down from 306,077 estimated before poaching became widespread.

Scientists are now anxious to apply the GIS model to estimate populations of other species, since field studies in Gabon indicate that, like the elephants, animals such as the spot-nosed monkey tend to concentrate more heavily in remote areas away from roads and rivers.

Says Beardsley, "future use of GIS for estimating species populations will allow researchers to spend more time analyzing and interpreting population estimates and less time with expensive field expeditions."

**I.T. TIMES**

The I.T. Times is published by the Division of Information Technology, University of California, Davis, to inform the campus community and others of information technology services, facilities, and activities at UC Davis. It is distributed free of charge to members of the user community and to other universities. Use of trade or corporation names in this publication does not constitute endorsement by the University of California, Davis. I.T. Times articles may be reprinted as long as the source is accurately quoted and credited.

Editor: Catherine Fehr Curran	752-5965
Writer: Anne Jackson	754-8302
Assistant: Bonnie Johnston	752-1009
Designer: Marianne Post	
Masthead: Doug Gentry	

Send e-mail to [itpubs@ucdavis.edu](mailto:itpubs@ucdavis.edu)

Contributors to this issue:	
Tim Leamy	Rodger Hess
Ken Firestein	Karen Beardsley
Gabriel Undo	Paul Grant
Russ Hobby	Dick Koye
Zack O'Donnell	Grazia Jaroff
Laura Jansley	Kevin Roddy
Sandy Duncan	Arl Amos
Diana Ross	Carole Barone
Doug Hartline	Marsha Reoddick
Pete Peterson	Jeff Barrett
Dave Zevatson	Diana Foster
Joan Gargano	Paula King