This issue of the Caltech Computing Newsletter contains a summary of the computing resources and services provided to the Caltech community by the Campus Computing Organization (CCO).

For a more detailed explanation of how to use our computing resources, refer to the 1994-95 edition of the CCO Reference Guide. The Guide is now accessible on-line via the "World Wide Web", with the "Uniform Resource Locator" (URL) of: http://www.cco.caltech.edu/cco/refguide/ (If you need assistance getting started with the Web, contact the CCO consulting office at extension 4602, or stop by 160 Jorgensen). Printouts of individual Reference Guide chapters are available from the bins located in the Jorgensen lobby.

Welcome Back to School
The CCO Front Desk - 158 Jorgensen

The CCO Front Desk is located adjacent to the lobby of the Jorgensen building. Members of the Caltech community come to the Front Desk to apply for accounts on CCO computers, to buy computers from Apple, Compaq and Sun, software from a variety of vendors, and computer peripherals and supplies. The Front Desk also serves as the general information clearinghouse of the CCO.

Computers Sales

The CCO now has in stock, for immediate pick up or delivery, a variety of desktop and laptop computer systems from Apple Computer, Compaq Computer, and Sun Microsystems*. Current price lists for these and other vendors are located in the racks in the Jorgensen lobby—prices quoted on these lists always INCLUDE sales tax. The CCO sells these systems at our cost plus 3.75% (to cover expenses). Delivery and set up service (on-campus locations only) is now available.

We also have in stock some of the more popular software products (e.g., Microsoft Word and Excel for both Windows and Macintosh) and expendable items such as floppy disks, Exabyte and DAT tapes, tape cartridges, laser printer toner cartridges, computer paper, printer ribbons, surge protectors, cables, computer security devices, etc.

Software for which Caltech has purchased a sitewide license (e.g., Maple, Numerical Recipes, and TeX for PCs) is also available at the Front Desk. This is also the place to sign up your Sun or DEC workstation for the campus software agreements we have with these companies.

To pay for your computer, software, or supplies, you will need either a personal check or a valid Caltech faculty account number. Departmental purchases are requested on a purchase requisition form—items less than $500 can be purchased via a material transfer form.

*For items not currently in stock, it will often take from 4 to 6 weeks to receive your system after you have ordered it from CCO.

The Business Office

Overview of Maple, Mathematica and Matlab ........... Sept. 29, 7:30PM to 9PM in 102 Steele
Macintosh Classes: 9:30AM to noon in 170 Jorgensen
Intro to PageMaker 5.0 ..................... Sept. 27, 28 and 29
Intro to the Mac ......................... Oct. 4, 5 and 6
Intro to WORD ......................... Oct. 11, 12 and 13
Intro to EXCEL ......................... Oct. 18, 19 and 20
Intro to FileMaker Pro ............... Oct. 25, 26 and 27
Advanced WORD ........................ Nov. 1, 2 and 3
Advanced EXCEL ........................ Nov. 9, 10 and 11
Advanced FileMaker Pro ............. Nov. 15, 16 and 17
Newsletters in PageMaker ............. Nov. 29
PageMaker Flyers and Styles ........ Nov. 30

CCO and the Library present World Wide Web courses, starting Wednesdays in October, 1:30 - 4:30PM in the Mac Training Lab

Please see the World Wide Web, CCO Home Page, Class List for class schedule.

To register or get notice of classes offered by CCO please send e-mail to class_signup@cco.caltech.edu

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*For items not currently in stock, it will often take from 4 to 6 weeks to receive your system after you have ordered it from CCO.
Computer Repair

If a failure happens to your system during its warranty period, (either 90 days or one year depending on manufacturer) simply bring it back to CCO where it will be repaired or replaced at no charge. A pick up and delivery service (on-campus locations only) is now available.

The CCO offers competitive rates on repairs for many computers and peripherals that are no longer under warranty. Equipment needing repair should be brought to the CCO Front Desk. Call us for more information on pricing and supported systems.

Other Services

The CCO Front Desk also offers a loaner pool of laptop computers and LCD computer screen projector panels (both color and monochrome).

Undergraduate Residence House Computing Labs

Each on-campus undergraduate residence house has a microcomputer lab containing eight to twelve computer stations.

The computers and laser printers in the labs were donated to Caltech by Apple Computer, Ben Rosen, Compaq Computer, IBM, Sun Microsystems, and the White Rose Foundation. The CCO also purchases equipment for these labs out of its operating budget.

The CCO Computing Labs

The CCO operates five computer labs on the first floor of the Jorgensen building. These labs are open to the Caltech community 24 hours a day, seven days a week. To access the labs after normal business hours and on weekends, you must obtain a key from the Jorgensen Front Desk (be sure to bring your Caltech ID).

The labs are a free resource to the campus. In order to make the labs a better place to work for all of us, we respectfully ask lab users to adhere to some simple rules. Please see the box on page 5.

If you require assistance using any of the computers in the labs, CCO lab attendants are available in 368B Jorgensen. You may also contact the CCO user consultants in 160 C&D and 162 Jorgensen, extension 4602.

Macintosh Lab -154 Jorgensen

The CCO Macintosh Lab currently consists of 11 Macintosh computers four Power Macintosh and seven Mac II computers. We are planning to add additional Power Macintosh computers during the fall term. All of the Macs in the lab are running Apple’s System 7 operating system.

There are several laser printers and color printers available to the Macs in the lab There is also a high resolution (600 dots per inch) color digital scanner and two grayscale (300 dots per inch) optical scanners in the lab. Optical character recognition software is available to scan in text.

Software packages available in the Mac Lab include Mathematica, Maple, Claris FileMaker Pro and Microsoft Office (Word, Excel and PowerPoint).

All of the Macs are connected via ethernet to the campus network, and can be used to access the CCO Unix cluster and other resources on the Internet.

For more information on the Mac Lab, please refer to the CCO “Mac Lab” Reference Guide.
Computing Labs

**Intel Lab - 156 Jorgensen**

The Intel Lab consists of 20 486-based computers donated to Caltech by the Intel Corporation. They feature 50 or 66 MHz CPUs, 16 or 24 megabytes of RAM, 320 megabyte hard drives and 17" NEC SuperVGA color displays.

Most of the computers are running MS-DOS 6 and Windows 3.1. Two machines are running advanced operating systems for Intel processors. Microsoft's Windows NT and NeXT Computer's NeXTStep for Intel Processors are currently available on one machine each in the lab.

Two laser printers, a Hewlett-Packard LaserJet 4M and a high-speed (20 page per minute) Compaq Pagemarq, are available for printing needs. In addition, a Tektronix Phaser 300i color printer is available for color output.

A variety of software packages including Microsoft Office (Word, Excel and PowerPoint), Visual C++ and Visual Basic, Maple V, Mathematica, PageMaker and AutoCAD is available on the Intel machines. The Intels have access to the campus network and the Internet. A Novell Netware server is available for local file and print sharing needs. In addition, TCP/IP software provides access to the CCO Unix cluster, as well as other computers on the Internet. Mosaic (an Internet front-end) is available to access other resources on the Internet.

For more information on the Intel Lab, please refer to the CCO “Intel Lab” Reference Guide.

**NeXT Lab - 156 Jorgensen**

A cluster of 12 computers from NeXT, Inc. is available in 156 Jorgensen. Although NeXT, Inc. no longer manufactures these computers (they are now a software only company) the CCO plans to keep the NeXTs in operation as long as it is practical to do so.

The NeXT systems feature Motorola 68040 microprocessors, 16 or 20 megabytes of RAM, and either a 2.88 megabyte floppy drive or a 256 megabyte read/write optical drive. All of the systems include a MegaPixel high resolution display, three of which are color. One Intel computer is running NeXT’s NeXTStep for Intel Processors. This system features a 50 MHz 486DX2 microprocessor, 16 megabytes of RAM and a NEC 17" high resolution color display.

The NeXTs are based on an implementation of the Unix operating system. NeXTStep, a graphical user interface, provides a friendly user environment.

For printing needs, two 400 dot per inch grayscale NeXT laser printers and a high resolution color printer are available, as well as other laser and color printers.

Software packages available include Mathematica, Appsoft Draw, Lotus Improv, FrameMaker, TeX, WordPerfect, Mesa, Diagram, Pages, Omnigraph and NewsGrazer. Available programming languages include C, C++ and Objective-C and the NeXTSTEP development system.

To use the NeXTs you must obtain an account on the CCO Unix cluster. Account forms are available in the Jorgensen lobby.

For more information on the NeXT Lab, please refer to the CCO “NeXT Lab” Reference Guide.

**Sun Lab - 160A Jorgensen**

The CCO Sun Lab contains a cluster of nine Sun SPARCstation computers. At the moment, we have a mixture of
SPARCstation 1, 1+, IPC and LX models. During the fall term, we plan to replace these with SPARCstation 5 computers. Eight of the systems are running SunOS 4.1.3, while one system is running Solaris 2.3.

Available software includes Mathematica, Maple, Fortran, C, C++, Island Write/Paint/Draw, TeX and most of the Gnu software. The X Window system (X11R5) is the default user interface.

The SPARCstations have direct access to the campus network and the Internet. For performance reasons, the SPARCstations in the lab are accessible via their consoles only. Remote logins should be directed to ccosun.caltech.edu.

To use the Sun computers you must obtain an account on the CCO Unix cluster. Account forms are available in the Jorgensen lobby.

For more information on the Sun Lab, please refer to the CCO "Sun Lab" Reference Guide.

Training Lab - 170 Jorgensen

The CCO Training Lab is used for the CCO Macintosh training program and other classes and seminars. The Training Lab consists of 12 Mac IIci computers with 13” color displays. Two Mac II LC computers are available for the CCO VHS video training tapes.

Due to the increasing use of this lab for classes and seminars, this lab will be closed to general computing use for at least the fall term. We hope the addition of new computers in the Mac Lab will offset the loss of these computers for general computing use.

CCO Printers

The CCO has a number of printers available for all of the CCO computing labs. There is at least one high-speed network printer available in each of the general use computer rooms, as well as additional laser printers and color printers.

A Tektronix Phaser 300i Color Printer is available from all of the computers in the CCO computing labs. The Phaser 300i is a wax-based, solid ink printer that can print on most types of paper. Tektronix transparencies are available for purchase at the CCO front desk. A laminator is also available to enhance the colors of your Tektronix transparencies.

A NeXT color printer is available from the Unix and Macintosh clusters. In addition, an Apple Color Printer and a Hewlett-Packard DeskWriter 550C is available from the Macintosh cluster.

Larry Watanabe

CCO Lab Usage Guidelines

1. No eating, smoking or drinking is allowed in any of the CCO labs.
2. Please be sensitive to the shared nature of the CCO labs and take care not to display on our computers or printers images, sounds or messages that could reasonably create an atmosphere of discomfort or harassment for others.
3. Do not use the CCO printers for mass duplication of output. Use a photocopying machine if you need to duplicate more than just a few pages.
4. Do not play computer games when the labs are crowded. If you are playing a game and notice someone wanting to use a computer, or are asked to give up your seat by someone with "real work" to do, please be cooperative and do so.
5. Do not use more than one computer at a time.
6. Unattended runs on lab computers are subject to being reset.
7. Please do not park bicycles in the CCO labs.
CCO Staff

Tom Boyce, Computing Analyst and Mac Consultant, x4602

Kurt Revis, a student employee, in our World Wide Web specialist, x4514

Glen George, Lecturer for Mathematica and Maple, x2802

Lynell Jackson, our technical assistant specializing in NeXT and Mathematica, x4822

Tom Boyce, Computing Analyst and Mac Consultant, x4602

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Lynell Jackson, our technical assistant specializing in NeXT and Mathematica, x4822

Roger Murray, an associate computing analyst, is a UNIX System Manager, x4628

Larry Watanabe, Sr. Computing Analyst is our consulting and lab manager, x4602

Angela Swaim, Assistant to the Business Manager, x4612

Vicki Brown, a technical assistant is our UNIX Cluster Assistant

Lauren Connolly, Front Office Assistant, x4612

Grace Stinson, Front Office Assistant, x4612

CCO Staff
The Media Integration Lab provides specialized tools and equipment for working with digital media and for producing multimedia products and presentations. The Lab currently houses three workstations: (1) a Silicon Graphics Indy, (2) a Macintosh PowerPC 8100, and (3) a Macintosh Quadra 700. Each is a fully-configured authoring/editing workstation offering an array of tools and capabilities related to • digital video production, editing, titling, and effects, • media integration and multimedia presentation, and • computer-based interactive courseware development. Each workstation features a high-performance 2.5 to 4 gigabyte drive, 20 to 40 megabytes of RAM, a high-resolution display, CD-ROM player with support for PhotoCD, and capability for recording to and digitizing from videotape. Other equipment available in the MI Lab include a professional-level S-VHS video system with NTSC output monitor, frame-accurate animation controller, a 5 gigabyte Exabyte tape drive, and a Xyapost ImageNode video server which allows the Lab's video system to be accessed over CITnet and for images rendered on any workstation on the network to be sent to the system and automatically recorded as frame-accurate animation onto videotape. A compact disc recorder (CD-R) unit is scheduled to be added this Fall.

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MI Lab software includes • graphics and image manipulation tools such as Photoshop, Illustrator, Collage, definelabs; • animation and video editing/effects tools e.g., Adobe Premiere, After Effects, Morph, Director, Infini-D, LogoMotion; • presentation tools e.g., Persuasion, PowerPoint, Aximil; • and authoring tools such as AuthorWare Professional, Apple Media Tool Kit, Director, Expanded Book Toolkit.

Lab workstations are connected via ethernet to the campus network and can be used to access the CCO Unix cluster and other resources on the Internet. In addition, Ximex's Unix file server and print spooling software is also available enabling the Lab's Macintoshes and SGI to easily share files and resources with one another.

Since the opening of the Media Integration Lab in the Fall of last year, a wide variety of faculty, staff, and students have made use of the Lab's resources—individuals from Seismology, Biology, Chemical Engineering, Aeronautics, Physics, Humanities, Geology, Electrical Engineering, USGS, the Library, Development, Periodicals, Carnegie Observatories, and elsewhere within Institute. Projects have ranged from the production of computer-generated media for Watson Lectures to the videorecording of visualizations and simulations for use at conferences to the creation of computer-based teaching materials to the enhancement and preparation of digital images for publication.

For more information about the Media Integration Lab, please contact Wayne Waller at wallerw@starbase1.caltech.edu or by calling extension 3279.

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Special Labs and Attendants

### Media Integration Lab-170A Jorgensen

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### Consultants and Lab Attendants

CCO provides a free consulting service to assist you with a variety of computer questions relating to DOS/Windows, Macintosh OS, or Unix. The consultants are available during normal business hours. You should make an appointment for consultations that you expect to exceed 20 minutes in length. They can be reached at extension 4602.

Larry Watanabe, the manager of the CCO computing labs, can assist with hardware, software and networking issues on PCs running DOS/Windows. He can also assist with questions or problems using the Sun Lab computers.

Tom Boyce, a computing analyst, is a Macintosh consultant for CCO. He can answer hardware, software and networking questions related to Macintosh computers on campus.

Lynell Jackson is a consultant specializing in NeXT and Macintosh computers. She is also very knowledgeable in color printing and scanning, and AppleTalk Remote Access.

The Lab Attendants are Caltech students whose duties include keeping the lab computers operational, supplying printers with paper and toner, and answering users’ questions. Their office is located in 160B Jorgensen. The lab attendant hours are posted on a board in the lobby of Jorgensen.

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Wayne Waller
CITnet is Caltech's local area computing network. It consists of 12 routed ethernet sections running through campus buildings and connected via fiber-optic cables to a central network router located in the Booth building machine room. The router, a Cisco Series 7000, is capable of an aggregate bandwidth of 500 megabits per second, well beyond the current load generated by our 12 ethernet sections. Additionally, each ethernet segment has a redundant route to the network, provided by a smaller Cisco router, that automatically takes over in the event of a failure of the main router.

Fiber-optic cables have been pulled to 22 different campus locations. There are extra fibers available beyond what is being used for CITnet. These extra fibers can be used for higher speed network protocols (e.g., ATM and HIPPI). The extra fiber can also be used to directly connect groups of computers that are located in different areas of campus—creating “logical” subnets. These subnets are interconnected via the CCO’s main Cisco router. Since there are a limited number of available ports on our main router, there is a fee (currently $2,000) for this service. Contact Bob Logan (ext. 4631, bob@cco.caltech.edu) for more information on these issues.

Getting Connected

There are a variety of methods to get your computer connected to CITnet. It is best to talk with your department’s network manager or the CITnet Administrator (Dallas Oller, ext. 3898, dallas@romeo.caltech.edu) for advice on the best way to get your computer connected to the network.

Outside Connections

CITnet is connected to national and international computer networks, such as the Internet and BITnet. Our connection to the NSF backbone is provided by CERFnet, a regional network. The CCO pays CERFnet an annual fee for the connection. There is no charge to the end user at Caltech for Internet usage.

Remote Access to CITnet

The CCO has set up modems that allow remote access to CITnet. Supported services include “AppleTalk Remote Access” (ARA), “Point-to-Point Protocol” (PPP), and “Integrated Services Digital Network” (ISDN).

The usage of our remote service has increased dramatically over the past couple of years—more people want to access Caltech and “surf the Internet” from home. In response to this increased demand, the CCO will increase the number of available ARA, PPP, and ISDN connections this fall.

For more information on networking, remote access to CITnet, and our connections to the outside world, refer to the CCO Reference Guide.

World Wide Web

The World Wide Web is a distributed information system accessible via the Internet. The Web supports multimedia features including graphics, animation, and sound. To access the Web, you need a “browser” program. The most popular Web browser for PCs and Macs, Mosaic, is available at the CCO Front Desk. Mosaic is also available for use in the CCO computing labs in Jorgensen. Unix and VMS versions are also available. For help getting started with the Web, contact the CCO Consulting Office, extension 4602.

Many Caltech on-line services are now accessible via the World Wide Web, including the CCO Reference Guide, the Caltech personnel directory, photographs from the Institute Archives, a “clickable” campus map, and the weekly calendar of campus events. The Caltech Libraries’ on-line services, CLAS and TOC/DOC, are also accessible via the Web.

Additional on-line services to be accessible via the Web in the future include the Caltech schedule of classes, course catalogue, and the Institute Master Calendar.
Network Services

Electronic Mail (E-Mail)

E-Mail is an extremely popular communications tool in the research and education community. The Caltech campus-wide electronic mail system allows you to exchange messages with a colleague down the hall or across the globe. The CCO offers free accounts for E-Mail on its UNIX computer cluster. Mac and PC users can also use a dedicated package (e.g., Microsoft Mail) to send and receive E-Mail directly from their desktop computer—without signing on to a central machine. Your department may also offer E-Mail accounts on one of its servers. Contact the CCO Consulting office (ext. 4602) for more information on which E-Mail platform is best suited to your needs.

File Transfer and Remote Login

Connection to CITnet allows you to send and receive files among hundreds of computers on campus, and anywhere on the Internet. The most common program for doing this is called “ftp” (file transfer protocol), but there are many others depending upon the computer you are using, and the source/destination of the file(s).

Connection to CITnet also allows you to connect to other remote computers. This is usually done by using the “telnet” command. Of course, you have to have a valid account on the remote computer in order to log in there.

The CCO UNIX Cluster

The CCO operates a Unix computing cluster consisting of Sun and NeXT computers.

You may obtain an account to use the Unix cluster by visiting the CCO front desk in Jorgensen and filling out an account request form. Be sure to bring your current Caltech ID with you when you apply for your account. There is no charge for using any of these computing resources, but we do ask our users to follow the guidelines listed on page 12.

Each cluster also has specific usage guidelines. See the specific part of the CCO Reference Guide for more information.

The CCO UNIX cluster consists of two Sun SPARCserver 670MPs, one SPARCserver 1000, several SPARCstations (located in the Jorgensen “Sun Lab” and the undergraduate residence houses), and several NeXT computers. The 670MPs are currently running the Sun 4.1.3. operating system, while the 1000 is running Sun’s Solaris 2.2.

The UNIX cluster is primarily used for network access (Usenet news, electronic mail, Internet access, World Wide Web, etc.), and educational computing (programming languages, Mathematica, Maples, etc.).

Fill out a UNIX account request form at the CCO Front Desk to gain access to these computers.

USENET News

USENET news is a unique method of sharing information amongst many computers and users throughout the world, across many different networks. There are hundreds of “newsgroups” (often called electronic bulletin boards) where people ask questions, participate in discussions, or simply read and extract information.

There are several news reading programs on the UNIX ("rn", "nn", and "tm") cluster. There is also a public domain newsreader for the Mac ("NewsWatcher") that allows you to read news directly on your Mac without signing on to a central computer. This software is available on the Mac Lab server (in the News Reader folder, on volume CCO Mac Lab Apps).

Macintosh Training Program

CCO offers a variety of computer training classes during the year on Macintosh computers in the Training Lab, Room 170 Jorgensen.

If you are new to computers we offer an Introduction to the Macintosh. If you need to learn Microsoft Word, Excel, Claris FileMaker Pro or PageMaker, beginning and intermediate three day courses are offered on Tuesday, Wednesday and Thursday, from 9:30 AM to noon. Introductory and advanced sessions are scheduled in alternating months.
Computer Training

Mathematica, Maple, and Matlab Overview

This year CCO will be offering courses in Mathematica, Maple, and Matlab. Classes will vary in length from one session to four sessions spread over two weeks, depending on the topic. On Thursday, September 29th, there will be a Math Package Overview class in 102 Steele from 7:30 P.M to 9:00 P.M. This class will cover the similarities, differences, and uses of Mathematica, Maple, and Matlab. The classes for the specific packages will also be described and an opportunity will be given to sign up for future, more detailed, classes. These courses will be scheduled based on the interest indicated at the Overview class.

Math Packages Newsgroup

Additionally CCO has started a newsgroup and anonymous ftp site for the Math Packages it supports (Mathematica, Maple, and Matlab). This newsgroup is caltech.cco.Math-Packages. The newsgroup’s charter is to provide answers to users’ questions about the packages. The ftp site is maintained on CCO’s anonymous ftp server in the directories pub/Mathematica, pub/Maple, and pub/Matlab. The ftp site will be used as a repository of public domain libraries for these packages.

If you have any questions about or suggestions for the courses, newsgroup, or ftp site, please send a message to Glen George (x2802 or glen@caltech.edu). If you wish to sign-up for a class, please send an e-mail message to class_signup@cco.caltech.edu or contact Betty McKenney at x4885.

Video Training from Mac Academy

CCO offers a wide variety of software instruction on videos for many of the popular programs. If you need to learn Claris CAD, FileMaker Pro or WORKS, Aldus Freehand or Persuasion, Microsoft WORD, EXCEL, or others, just make a reservation at the front desk (ext. 4612) and use the training stations equipped with a TV/VCR in the Macintosh Training Lab at your convenience.

For a complete list of the software video training tapes visit the Front Desk in Jorgensen.

Campus Forms Computerized

The list of forms that CCO has created using FileMaker Pro, version 2.1, for use throughout campus is growing. In addition to the forms made available last June, Personnel Action Notification Forms, PAN1 and PAN2, have been created and are up for approval by the Human Resources Department. The Personnel Information Change
Notice Form P53, recently revised, is approved for use. These forms can be customized for each department and automated to fill in information as necessary. These forms have been created for your convenience in entering and tracking information and most are acceptable by the end user.

The forms are located on the Mac Lab FileServer, CCO MacLab Apps, in the CIT Forms folder. If you are connected to CITnet and use a Mac, just copy them to your hard disk. If you are using a PC, please bring a formatted diskette to the consultant’s office to obtain a copy of these forms.

For help retrieving these forms or using them, send e-mail to McKenneyB@starbase1.caltech.edu or call ext. 4885.

**General CCO Resource Usage Guidelines**

1. CCO's resources are for use by current Caltech Faculty, Staff, and Students only.
2. CCO's resources should not be used for profit-making endeavors or for any other commercial purposes.
3. Sponsored Research Computing (computing done for a project supported by a research grant) is not allowed on CCO's resources*.
   *The CCO may occasionally waive the restriction on such computing—but only if the computing task in question will not materially affect the availability of CCO's computing resources. The CCO Director's office will review requests for temporary waivers of this rule on a case-by-case basis.

**Computer Clusters Usage Guidelines**

1. **Account Guidelines**
   a. Do not share your account(s) with others.
   b. Select "non-guess-able" passwords (e.g., passwords should not be a word or anything related to your name or account name).
   c. Do not attempt to break into the accounts of others (this includes, but is not limited to, running “crack” or similar programs against the password file of any computer on the network).
   d. Accounts idle for more than six months are subject to deletion.
   e. Accounts of those no longer affiliated with Caltech will be deleted. (Members of the Caltech Alumni Association may request an account on the Alumni's computer system.)
2. **Resource Usage**
   a. Please be aware that there are hundreds of people using the CCO computer cluster—do not run programs that use an inordinate amount of system resources (e.g., disk space, memory, CPU time, etc.). If you have any questions about what is or is not acceptable, please contact the system manager.
   b. Do not exceed the recommended disk quota of any system (contact the system manager if you require more than the allotted space).

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