CALS CAMPUS COMPUTING MANUAL
CALS Academic and Administrative Technology

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As a CALS student, you will use computers to accomplish all kinds of tasks:

- Keep notes, complete assignments, and prepare reports and resumes
- Communicate using e-mail, on-line discussion groups and chat rooms
- Register on-line, participate in surveys, take on-line tests and quizzes
- Run simulations and discipline software
- Take readings and measurements, maintain and analyze data
- Conduct research, access campus and world-wide information
- Develop and deliver electronic presentations

In the process you will develop computing skills that will benefit you as you move through your degree, apply for employment, or take an advanced degree.

First you need to quickly become familiar with the computing resources that are available to you here at NC State. The campus has many types of computers and software, and this handout is just intended to help you get started. It contains many links to Web sites with useful information, so keep it around!

If you are asking these questions, you are on the right track (this course will help you find the answers):

- How do I ensure my ID and password are set up correctly?
- How do I find and use computers in different computing facilities?
- What software is available and how do I use it?
- What is my e-mail address, how do I to use the campus e-mail system?
- How do I find my way around the Web?
- How do I save my documents, e-mail, Web pages, etc.?
- How do I print and how do I get more print quota?
- How do I connect to campus from home or dorm?
- How do I get more help and training?

**Hints for Excellence:** be prepared to ask for help and advice, but first take time to try and figure out how to do things yourself – you won’t learn if someone else does it for you. Here’s an ironclad guarantee: you’ll never regret the efforts you make to learn more about using computers!
Unity IDs and Passwords

You will use your Unity ID and password to login in most of the computer labs across campus. Check the NC State Computing Services handout included in this manual for information about your ID and password. Consider changing your password in the first week or two of the semester (if you haven’t changed your password before, your initial password is your Student ID Number). To change your password, go to the campus Web page for this purpose:

http://www.ncsu.edu/password

and follow the instructions. Use this option any time that you want to change your password again.

REMEMBER YOUR NEW PASSWORD!!! IF YOU FORGET IT, YOU WILL NEED TO GO TO COMPUTING SERVICES, ROOM 208, AND SHOW THEM YOUR ID BEFORE THEY WILL RESET IT TO THE LAST FOUR DIGITS OF YOUR STUDENT ID NUMBER + THE FOUR DIGITS OF YOUR BIRTH MONTH AND YEAR.

Hints for Excellence: Never share your password with anyone, and never let anyone use a computer that you are logged into – you will be responsible for anything that is done in your name. Change your password occasionally.
Computing Facilities

There are many different computing facilities on campus. Some are university facilities that any student can use and that are open at all hours. Some are college facilities that may close at night, and may also be scheduled sometimes for classes. And some facilities are laboratory classrooms, only available during class time.

These facilities contain a mix of PCs, Macintosh and UNIX computers, so it is difficult to provide information in this handout that won’t be confusing as you move from one lab to another. The best approach is to read this handout over, then check each facility for information about using the computers there – most should have handouts to help you get started.

How to find the University and College Computing Labs:

A current list of University Labs and links to other college facilities can be found at:

http://www.ncsu.edu/it/essentials/connections_labs/unity_computer_labs/index.html

And a current list of CALS Computing Labs can be found at:

http://harvest.cals.ncsu.edu/index.cfm?showpage=466

These Web pages have extensive information about the labs, including open hours, and reserved times. The major computer labs in CALS are located as follows:

PC:
1400 Williams Hall
10/11/13 Polk Hall
105 Scott Hall
0105b Toxicology Building

UNIX:
Currently the labs do not have Unix workstations

Hints for Excellence: become familiar with different types of computers (different keyboards, mice, logins, operating systems), and with moving your work from one computer to another. This will work for you both here at NC State and when you move into the workplace.
Software

The most common software you are likely to use as a student here are:

- MS Word for word-processing
- MS Excel for spreadsheets
- MS PowerPoint for presentations
- Mozilla Thunderbird Mail and Webmail (from a web browser) for e-mail
- Mozilla Firefox and Internet Explorer for the World Wide Web
- Symantec Antivirus for virus protection

Other software you may use in some courses or for more specialized work include:

- Arcview for GIS-related work
- SAS for more sophisticated statistical applications
- MS Access for database work
- Maple for math
- A wide range of discipline-specific software (these may only be available in specific college computing lab facilities)

CD ROM-based Software

Most PC and Macintosh computers also include CD ROM drives. Some classes may require you to use CD ROMs to run simulations or special programs, or to access image or video libraries. You can also use your own CD ROM in a CALS student computing facilities; however, you may not usually run programs that require installation on the computer’s hard drive in these facilities.

Hints for Excellence: learn to use the software in the “Common Software” list even if your current instructors aren’t requiring them. You will quickly find how useful they are to help you do your work more effectively, maintain good notes and records, and produce high quality assignments and reports.
E-Mail

Your e-mail address is usually your Unity ID followed by @ncsu.edu. For example, if your Unity ID is absmith, your Unity e-mail address is: absmith@ncsu.edu (see the NCState Computing services handout included in this manual for more information).

IMAP

The campus provides IMAP mail services for all students. IMAP mail makes it much easier for you to get to your mail from any location—on campus, from home, even from across the world! CALS strongly recommends that all students take advantage of IMAP mail services.

Most campus computing facilities provide Mozilla Thunderbird. You can access your email by running Mozilla Thunderbird from the Novell Application Launcher. Take some time to become familiar with this program—you need to know how to send, reply, and forward your mail, send attachments, use mail folders, and cut and paste between your mail messages and other documents. You may also use such IMAP clients as Outlook, Outlook Express, Eudora, or Pegasus on your personal machine.

Webmail

Once you have IMAP mail, the good news is that you can also get to your mail from the Web from anywhere around the world without needing to use a mail program. To do this, just connect to:

http://webmail.ncsu.edu/

Hints for Excellence: Use e-mail regularly to contact instructors, advisors, other students, prospective employers, research sources, etc. Check your mail regularly so you can respond to messages in a timely way. Use mail folders to organize mail you want to keep. Delete unwanted mail.
The best way to get used to the World Wide Web is to use it – find a computer and run Mozilla Firefox (or Internet Explorer). Teach yourself how to locate information on the Web in each of the following three ways:

1. Click on links on any Web page to go to new pages (Use the Back and Forward buttons to easily move between pages that you have just visited).

2. Click in the window that displays the address of the current Web page and type the URL (Web address) of the page that you want to connect to (note that you can cut and paste into this window). Often your instructor will provide you with URLs related to your course work, or you will learn about interesting URL’s from publications or from friends.

3. Search the Web by using the many Web Search Engines. Use the Search button, and type in words or phrases to receive pages that contain lists of Web links that may meet your search interests – great for research!

This handout contains many useful Web addresses related to campus resources – get used to the idea of finding what you need on the Web – you will be amazed how much is out there! For a start:

NC State’s Home page is at: http://www.ncsu.edu/
The CALS Home page is located at: http://www.cals.ncsu.edu/
CALS Academic Programs is at: http://harvest.cals.ncsu.edu/index.cfm?showpage=4
CALS Computing Information is at: http://harvest.cals.ncsu.edu/index.cfm?showpage=465

These pages contain a wealth of information about our university and our college and its programs and departments as well as student information, on-line course materials, Career Services, computing facilities, student organizations, and more.

**Hints for Excellence:** Learn how to print Web pages, and how to cut and paste information (text or images) from Web pages into your documents and e-mail messages. This will be very useful for research, reports, etc. Take time to become familiar with Web sites on campus – you will find a wealth of useful information! If you’re looking for part-time opportunities, consider learning to create Web pages and work with multimedia – you could even place your resume on-line!
Visit the Registration and Records Web Site!

http://www2.ncsu.edu/ncsu/reg_records/

Did You Know You Could Do The Following on the Registrations & Records Web Site?

✔ Check/change addresses (local and permanent)
✔ Change your published email address
✔ Request a Privacy Block
✔ View class schedules
✔ Find out about important dates using the Calendar
✔ Check tuition rates and other fees
✔ View semester grades and full transcripts
✔ View academic totals
✔ Check on current policies
✔ Get information on commencement
✔ Download & print registration and records forms & admission forms

To access these options, go the Registration and Records Home Page and click on PACK TRACKS. You'll be prompted to enter your unity ID and password.

IMPORTANT: When you have completed viewing your schedule or making any changes to your personal data on the Registration and Records web site, it is very important that to protect your privacy, log out and close the web browser when you are finished.
In order to print in most campus computing facilities, you will need to establish a *Wolfcopy* account with a print quota in order to print on any of the *Wolfcopy* printers. You can purchase print quota from the Talley Student Center on Cates Avenue or from University Graphics on Sullivan Drive. The minimum purchase for print quota is $5.00.

### Connecting to campus with your own computer

If you have a computer of your own and live in one of the dorms that have already been “wired,” you can achieve a full Ethernet connection to the campus network, which will give you access to e-mail, the World Wide Web, your Unity account, and much more. Even without an Ethernet connection you can connect your computer from any location by using a modem and paying a monthly fee to an Internet Service Provider. Either way, you will need to purchase the necessary hardware and software - contact NC State Computing Services for help and current information - they have extensive information on the Web:

For **Ethernet** connections from the dorms, see:

http://www.ncsu.edu/resnet/

**Purchasing your own computer**

For current recommendations, see:

http://www.ncsu.edu/it/compspecs/
Poster Printing

Large format HP DesignJet 1055CM color printers are available for CALS student, faculty, and staff use by appointment in 1400 Williams Hall and in the Ricks Hall Addition. The printers are set up for the creation of posters with 36” wide heavy coated or semi-gloss photo paper. Because of the high cost of materials for the printer, use is restricted.

Student Large Format Printer Policy

Authorized users: CALS majors or non-CALS majors enrolled in CALS classes. Student status will be verified prior to any poster print.

You may be asked to present ID at the appointment.

Authorized use: Posters for class projects, research symposia, or other academic requirements.

Maximum poster size: The maximum poster size is 36”x 52”.

Cost: Free to authorized student users. Please note that one appointment consists of 2 draft prints and 1 final print of a single poster. If more prints are needed, you may be asked to sign up for another appointment.

Times available and Staff response: The 1400 Williams printer is available for students by appointment in accordance with the lab's hours of operation. Note: Appointments will not be scheduled when classes are not in session (this includes semester breaks).

Staff will respond within one business day and appointments will usually be scheduled within 3 business days. Due to the increased demand for large format printing services, we cannot allow walk-up or same day appointments. Please make every effort to be on time for your appointment. In extreme cases, if you are late, you may be asked to make another appointment.

Please be prepared to stay for the duration of the appointment (in most cases an appointment lasts 1 hour). CALS staff cannot be responsible for looking after your poster or materials if you leave.

During busier times of the year, the student printer is often completely booked. At this time, students may use a fee-based printer, such as University Graphics, at their own expense.

Recommended File Formats: MS Powerpoint or Adobe Photoshop/PDF file formats work best. If you would like to use another application, please note the name of the application on your appointment request.

Keep in mind that we can only accept file formats for applications existing in the Unity Computing Lab Environment (Windows Platform, NCSU license only).

Materials to Bring: Please bring your file on a CD or Thumb Drive (USB). Floppy disks are unreliable and are sometimes not recognized in lab computers.

Please note that we cannot retrieve your file from your email or K: Drive.

We do not provide poster tubes. Please purchase a tube before your appointment if you wish to use one.

Image Recommendations: Scanning resolution should be between 75 and 150 dpi. Lower resolutions will result in poor quality images.
Faculty and Staff Large Format Printer Policy

Authorized users: CALS Faculty and Staff. Status will be verified prior to any poster print. You may be asked to present ID at the appointment.

Authorized use: Posters for research symposia or other academic meetings.

Maximum poster size: The maximum poster size is 36" x 52".

Cost:

<table>
<thead>
<tr>
<th>Paper Type</th>
<th>Draft</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Coated Paper</td>
<td>$10.00</td>
<td>$15.00</td>
</tr>
<tr>
<td>Semi-Gloss Paper</td>
<td>$15.00</td>
<td>$25.00</td>
</tr>
</tbody>
</table>

Times available and Staff response: The Ricks Hall Annex printer is available for faculty and staff by appointment from 8:00am to 5:00pm Monday through Friday.

Staff will respond within one business day and appointments will usually be scheduled within 3 business days. Due to the increased demand for large format printing services, we cannot allow walk-up or same day appointments. Please make every effort to be on time for your appointment. In extreme cases, if you are late, you may be asked to make another appointment.

During busier times of the year, the faculty and staff printer is often completely booked. At this time, faculty and staff may use a fee-based printer, such as University Graphics, at their own expense.

Recommended File Formats: MS Powerpoint or Adobe Photoshop/PDF file formats work best. If you would like to use another application, please note the name of the application on your appointment request.

Keep in mind that we can only accept file formats for applications existing in the Unity Computing Lab Environment (Windows Platform, NCSU License only).

Materials to Bring: Please bring your file on a CD or Thumb Drive (USB). Floppy disks are unreliable and are sometimes not recognized in lab computers.

Please note that we cannot retrieve your file from your email or K: Drive.

We do not provide poster tubes. Please purchase a tube before your appointment if you wish to use one.

Image Recommendations: Scanning resolution should be between 75 and 150 dpi. Lower resolutions will result in poor quality images.
The campus Unity system provides you with as much as 200MB of file space, so the easy answer is to keep your work there. Since most computers on campus provide access to Unity file space, you can save work to your Unity file space from a computer in one location, and then retrieve it from another. Take the time to get familiar with your Unity file space on different computers in different labs:

**PC Labs:** your personal Unity space is on the K: drive

**Macintosh Labs:** your personal Unity space (Home drive folder) will be on the Desktop.

**Your own Computer:** If you are working at home or in your dorm room as well as in the labs, be sure you know how to get to your Unity file space from these locations, or else use a disk to bring work from home to the labs. For more information on how to transfer your files from your Unity file space, consult the following web sites:


or

http://www.eos.ncsu.edu/guide/ftp

**3½“ Drives**

All computers in the labs include 3½ " disk drives. A single disk contains approx. 1.44 MB. Once again you can carry your work from one machine to another. Your disks should be formatted for MS DOS, 1.44MB.

**Hints for Excellence:** Keep backups of your disks. Keep your work well organized and easy to find (folders for each class?). Use descriptive file names.
You will find that all kinds of help is available on the World Wide Web, here is a small selection:

<table>
<thead>
<tr>
<th>Type of Help</th>
<th>URL (Web address)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALS Academic Programs</td>
<td><a href="http://harvest.cals.ncsu.edu/index.cfm?showpage=4">http://harvest.cals.ncsu.edu/index.cfm?showpage=4</a></td>
</tr>
<tr>
<td>CALS Career Services</td>
<td><a href="http://www.cals.ncsu.edu/career/">http://www.cals.ncsu.edu/career/</a></td>
</tr>
<tr>
<td>CALS Departments</td>
<td><a href="http://harvest.cals.ncsu.edu/index.cfm?showpage=34">http://harvest.cals.ncsu.edu/index.cfm?showpage=34</a></td>
</tr>
<tr>
<td>CALS Student Clubs</td>
<td><a href="http://harvest.cals.ncsu.edu/index.cfm?showpage=36">http://harvest.cals.ncsu.edu/index.cfm?showpage=36</a></td>
</tr>
<tr>
<td>NCSU Student Computing Facilities</td>
<td><a href="http://www.ncsu.edu/it/pub/CC_facilities.html">http://www.ncsu.edu/it/pub/CC_facilities.html</a></td>
</tr>
<tr>
<td>NCSU Computing Services</td>
<td><a href="http://www.ncsu.edu/it/pub/">http://www.ncsu.edu/it/pub/</a></td>
</tr>
<tr>
<td>Changing Your Password</td>
<td><a href="http://www.ncsu.edu/password">http://www.ncsu.edu/password</a></td>
</tr>
<tr>
<td>Accessing IMAP Email from the Web</td>
<td><a href="http://webmail.ncsu.edu/">http://webmail.ncsu.edu/</a></td>
</tr>
<tr>
<td>NCSU Online Help Desk</td>
<td><a href="http://help.ncsu.edu/">http://help.ncsu.edu/</a></td>
</tr>
<tr>
<td>Registration and Records</td>
<td><a href="http://www2.ncsu.edu/ncsu/reg_records/">http://www2.ncsu.edu/ncsu/reg_records/</a></td>
</tr>
<tr>
<td>NCSU Calendars</td>
<td><a href="http://www2.ncsu.edu/ncsu/reg_records/calendars/index.html">http://www2.ncsu.edu/ncsu/reg_records/calendars/index.html</a></td>
</tr>
<tr>
<td>Library Services and Catalogs</td>
<td><a href="http://www.lib.ncsu.edu/">http://www.lib.ncsu.edu/</a></td>
</tr>
<tr>
<td>Dorm connections (Ethernet)</td>
<td><a href="http://www.ncsu.edu/resnet">http://www.ncsu.edu/resnet</a></td>
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</tbody>
</table>

**NCSU Computing Services**

Contact the Computing Services consultants if you have questions about your Unity account, resetting your password, connecting via modem, dorm connections and other computer questions. Here's how to contact the Computing Services consultants:

- **E-Mail:** send a message to help@ncsu.edu
- **Phone:** call 515-HELP
- **Walk-in:** 208 Hillsborough Building

**CALS Computing**

Talk to the Lab Assistant in the lab if one is available, or send e-mail with questions and concerns to caat_help@ncsu.edu, or you can call 601-2565 (the cell phone number of our roaming Lab Assistants). Let us know your concerns.
A spreadsheet is a program that makes it easy for you to maintain and work with data of any kind. You can use spreadsheets to keep track of your personal expenses, keep track of measurements, perform calculations of many kinds (financial, statistical, arithmetic, etc.), generate reports and graphs, keep inventories, decide on future business plans, etc. There are many different spreadsheet programs available - here we show examples using Microsoft Excel. This program is directly available on the PC and Mac computers in CALS facilities (it is also accessible on Unix computers by choosing MS Windows Emulation on the Application Menu, then running Soft Windows).

When you run MS Excel you will see an empty spreadsheet:

A spreadsheet is made up of cells, each identified by a column letter and row number. For example, there is a cell named A1 and a cell named E4. These are the addresses of the cells, and each cell has its own address.

Getting used to spreadsheets

You can move to any cell with the mouse, or with the movement (cursor) keys. You can type numbers, messages and formulas into any cell. For example, move to the cell B4 and type the number 400. Now move to the cell B5 and type the number 200. Move to the cell C5 and type the following =12*5 (including the equals sign), and press Enter. Notice that this time the number 60 appears. This is because when you start an entry with the equals sign (=), you are telling the spreadsheet to calculate something. The asterisk (*) is used to signify multiply, and =12*5 is an example of a formula.

Formulas can include the addresses of other cells. Move to cell B6. Type =B4+B5, and press Enter. This time the spreadsheet took the number in B4 and added it to the
number in B5 for you. Go to cell B7, and type =B4*3, then press Enter. B7 now shows
the result of multiplying the number in B4 by 3 (that is, B7 should now display 1200).

You have now typed a few formulas into your spreadsheet. Move back to B4 and type
300 to replace the 400 already there, press Enter, then look at the numbers in the
other cells. Did you see that the change to B4 changed the numbers in other cells (B6
and B7)? That's because B6 and B7 used formulas that included B4, and these were
recalculated when you changed B4. This makes it easy to update spreadsheets
whenever you need to.

Spreadsheets also allow you to use functions in your formulas to make calculations
easy. For example to add together the numbers in a group of cells, you can use the
sum function. Move to B8 and type =sum(B4:B7), then press Enter. You just used the
sum function to add the values of all the cells from B4 to B7. The expression B4:B7 is
used to indicate a range of cells.

You can also type text into your spreadsheet for row and column headings. For
example, move to A8 and type TOTAL, just to show that you can type text into cells as
well as numbers.

You can change the width of columns and rows in your spreadsheet if you need to.
For example, let's make column B wider - move to any cell in column B, and choose
Format from the menu bar at the top of the screen. Now choose Columns from the
menu that appears, and choose Width from the next menu. The Column Width box
shows the column width as 8.43:

Change the width to 12,and then choose OK. Column B is now wider than before.

You can also format the values in the cells themselves. For example, select cells B4
through B8 (to do this, move the mouse pointer to B4, then hold down the mouse
button and “drag” the mouse until cells B4 to B8 are highlighted, then release the
button). Now choose Format and then Cells. You will see that you can then choose a
wide range of formats for these numbers (currency, date/time, percentages, etc.).

Take time to experiment to get used to using spreadsheets. Be sure to save your work
if you want to keep it! When you are done, click on the File menu and choose Close.
Charts often make it easier to understand data by converting numerical information into a visual format which clarifies relationships and proportions. Many chart formats are available, and it is important to decide which type of format is most useful for your needs. Three common formats are pie charts, line graphs and bar/column graphs. Pie charts are especially useful for comparing proportions of a whole, for example to compare how your total expenses breakdown. Line and bar/column charts are especially useful for comparing trends over time, for example to compare your total expenditures for each month. MS Excel provides a series of steps to follow when you need to create a chart. The following provides an overview of these steps:

To create a chart, from the Insert Menu, choose Chart. The Chart Wizard dialog box appears, and walks you through a series of steps to create your chart:

Step 1 of 4 (Chart Type).
Select the type of chart you want, for example, Bar, Column, Pie, Line, 3D Column, 3D Pie, etc. Then click on Next.

Step 2 of 4 – Chart Data Source (Select the data that you want in the chart).
Here you will identify ranges of data from the spreadsheet that are to be used in the chart. If you want labels in the spreadsheet to appear as labels in the chart, select these as your first range. Note that, apart from labels, a pie chart will only use a single range of values, whereas a column, bar or line chart might include multiple ranges. Precede your ranges with the = sign, and separate each range with a comma. For example, if you wish to select labels from A13 through A22, and data from H13 through H22, you would type:

=A13:A22, H13:H22  (now click on Next)

Step 3 of 4 (Chart Options).
Choose from the options shown; examples include Legend, Titles, Gridlines, etc. Then click on Next.

Step 4 of 4. (Chart Location)
You will need to choose where to place the chart (the chart can be created on the same page as your spreadsheet) or As New Sheet (the chart will be created on a separate sheet). Then click on Finish. Your chart is completed, and can be saved and printed along with your spreadsheet.
Spreadsheet Formulas and Precedence

Imagine that the following formula is located in E6

\[ =B6 + C6 \times D6 \]

Where B6 contains the number 3, C6 contains 4 and D6 contains 5. What number will appear in E6? Will it be 35 or 23?

The answer depends on the order that the spreadsheet uses to do the calculation. If B6 is first added to C6 (to make 7), and the result is then multiplied by D6, the answer is 35.

If C6 is first multiplied by D6 and the result is then added to B6, the answer will be 23.

So which is the answer? When handling formulas, spreadsheets apply precedence rules. In general, this means that multiplication and division are performed first, from left to right, then additions and subtractions are performed, from left to right.

So the right answer will be 23, since the multiplication is performed before the addition.

To force the addition to be performed first, you need to use parentheses, like this:

\[ =(B6 + C6) \times D6 \]

Parentheses alter the rules of precedence - anything inside parentheses is calculated first, starting from left to right. Since pairs of parentheses can be nested inside each other, calculations inside the innermost pair of parentheses are always performed before those within surrounding parentheses.

For example, if B1 = 2, B2=4, B3=5, B4=6, B5=8, B6=2, consider the formula:

\[ =B1 + (B2 \times (B3+B4)) \times (B5/B6) \]

\((B2 \times (B3+B4))\) is the first group in parentheses, however \((B3+B4)\) is inside this group, so the first calculation is \((B3+B4)\)

\((B3+B4) = 11\)
\((B2 \times 11) = 44\)

\((B5/B6)\) is the next group in parentheses

\((B5/B6) = 4\)

So now we have \(B1 + 44 \times 4\). Multiplication comes before addition, so

\[ 44 \times 4 = 176 \]
\[ B1 + 176 = 178 \]