

ST. PAUL COMPUTER CENTER NEWSLETTER

September 1985

BITNET Available to SPCC Users

The St. Paul Computer Center (SPCC) has become a member of BITNET (Because It's Time Network). BITNET is an electronic network composed of more than 200 educational and research centers in the U.S. linked to one another via leased telephone lines (9600 baud data transmission). BITNET is linked to NETNORTH in Canada and EARNET in Europe. BITNET is a "store and forward" network; information originating at a given site is received by intermediate network sites and forwarded to its destination.

If you have colleagues at other BITNET institutions, you can use the BITNET link to correspond with them, exchanging files and electronic mail.

Access to BITNET

To access BITNET through SPCC, you presently must have a CMS account. Contact SPCC in room 50 Coffey Hall for an account application. To correspond with another user at a BITNET site, you must know the person's USERID and the NODE which identifies her or his institution's computer (the node name for SPCC is UMINN1). There is no extra charge for using BITNET (using the transmission network); the costs are only those of editing, processing, and storing the files.

Guidelines for using BITNET

The guidelines listed below have been established by the BITNET directors to delineate the intended use of the network and to standardize its use to avoid abuse.

- o Commercial use is strictly forbidden. All use of BITNET must be consistent with its goal to facilitate the exchange of non-commercial information in support of a member institution's mission of education and research.
- o BITNET may not be used for communication between non-academic members.
- o File transmissions are limited to 300,000 bytes (3,750 eighty-character records) regardless of the time of day. Users with larger files may divide them into a number of smaller files of 300,000 bytes or less, and transmit them at appropriate intervals.
- o Do not abuse the facility for sending messages (TELL command). Since interactive messages take precedence over all other transmissions, extensive use of messaging can block the flow of BITNET traffic.
- o Proprietary software may not be sent over BITNET.
- o Random mailing (junk mail), casual contacts ("Who are you?" messages), and job solicitations are discouraged.

Abuses should be reported to the SPCC staff. Network privileges will be revoked for delinquent users.

CAUTION - While BITNET has proven to be an extremely useful network for scholarly research and communication, it is not and should not be considered a secure network, and should not be relied on for the transmission of confidential or sensitive data.

Commands

The following CMS commands will be the most useful in using BITNET.

- TELL** used to send a message (usually one line) to a user that is logged on at the time of the message.
- NOTE** used to prepare a "note" for one or more computer users on our computer or in BITNET. NOTE references a NAMES file, so you may have the addresses (userid and nodes) linked to a nickname.
- SENDfile (Sfile)** used to send notes or files to one or more computer users on our computer or in BITNET. SENDFILE also references a NAMES file. All members of BITNET do not run CMS, check with the addressee of your file to be sure that the file is received and readable on their computer.
- RECEIVE** used to read onto disk one of the files or notes that is in your virtual reader.
- PEEK** used to display a file that is in your virtual reader without reading it onto your disk. You may use regular CMS XEDIT commands (locate etc.) while in PEEK.
- RDRList (RList)** used to display information about the files in your virtual reader. You can look at a file, discard it, copy it to a CMS disk, or send it to someone else.
- NAMES** used to create a "userid NAMES" file that will contain information about other computer users with whom you communicate.
- DEFAULTS** used to set up or to change the defaults for the following commands: SENDFILE, NOTE, RDRLIST, PEEK, FILELIST, RECEIVE, and TELL.

You may get help on any of the commands mentioned above with the HELP command. Just enter "HELP" followed by the command name. There is also a document available entitled, BITNET Announcement and User's Guide.

To see a list of the available nodes, type in the following:

```
help bitnet nodes
```

To see a HELP file display of the information stated in this newsletter, enter one of the following:

```
help bitnet menu
help bitnet info
help bitnet rules
help bitnet commands
```

T I M E G R A N T S

With the permission of UCC, we are reprinting the following announcement (University Computer Center Newsletter, August 1985), which describes time grant policy and a change in the price of the grant.

Initial Grant Payment Raised to \$50

University researchers and graduate students take note: The initial \$30 fee you pay for a \$1000 research grant in computing services has been increased to \$50. This change was announced in a memo from V. Rama Murthy, Acting Vice President for Academic Affairs. We reprint the text of the memo, dated July 25, 1985, in full below.

TO: Chancellors, Deans, Directors and Department Heads
FROM: V. Rama Murthy, Acting Vice President for Academic Affairs and Provost
SUBJECT: Computing Costs Associated with Graduate Thesis Work and Unfunded Faculty Research

For the past two years the University has supported a grants program for providing centrally administered computing services for graduate thesis work and for faculty research which was not supported by granting agencies. This program has been very popular, as evidenced by the faculty research budget having an estimated shortage of \$100,260 and the graduate student support budget having an estimated shortage of \$137,223 in the 1984-85 fiscal year. This program will be continued in the the 1985-86 fiscal year. Due to funding constraints for instructional support, this program may only be modestly expanded in 1985-86. Efforts will be made to seek additional funding but specific commitments cannot be made at this time.

The charging schedule which appears below is similar to that in effect for the past two years. The initial payment amount has been raised from \$30 to \$50 to better reflect the cost of consumable products such as paper and disk space. The features of this program are:

1. An initial payment of \$50 (not refundable) per user will establish an account of \$1,000 for computing costs (03) and on-line computing-related charges (05).
2. All off-line computing related charges and computing costs beyond \$1,000 will be fully charged to the user. However, grants will be available under the program presently managed by the Computer Grants Committee which remains in effect. In the past, problems have occurred for people who have overrun the \$1,000 account. These overruns cannot be handled retroactively by the Computer Grants Committee.

Since the initial charge is relatively small, you may want to consider absorbing these initial charges for your faculty who have unfunded research needs from your departmental budgets. The same schedule will apply to thesis-related computing by graduate students. The grant will provide a considerable amount of computing at a very low cost and should go far in meeting the computing needs of many of our faculty and graduate students.

We must expect grants and contracts for research projects to include funds for research computing and to pay the full costs of such computing whenever possible, whether the computing is done by faculty members or graduate students. If this practice is not followed, available University funds may not permit continuation of this policy for unfunded research. The Computer Grants Committee will not favorably evaluate requests for unfunded research when sincere efforts have not been pursued through granting agencies. Your cooperation is needed in implementing this policy which, if not followed, will lead to inequities for those who do supply funds for research computing.

Please distribute copies of this memo to faculty and graduate students who should know about it. The Computing Centers will be providing notification to their usual clientele but one of the purposes of the grant program is to reach new and prospective consumers of computing.

FALL SHORT COURSES

The St. Paul Computer Center will be offering short courses during the Fall Quarter.

The short course schedule for the Fall Quarter is as follows:

SHORT COURSE NAME	DATE	TIME
User Orientation	Oct 10 (Th)	3:00-5:00
Introduction to CMS	Oct 14, 16, 18 (M, W, F)	3:00-5:00
SAS (Statistical Analysis System)	Oct 22, 24, 29 (T, TH, T)	3:00-5:00
BITNET Demo	Oct 25 (F)	3:00-5:00
Introduction to CMS SCRIPT	Oct 29, 31 (T, Th)	3:00-5:00
Introduction to NOMAD	Oct 30 (W)	2:30-5:00
Introduction to CMS	Nov 4, 6, 8 (M, W, F)	3:00-5:00
NOMAD Application Development	Nov 5, 7, 12 (T, Th, T)	9:00-4:00
SAS (Statistical Analysis System)	Nov 12, 14, 19 (Th, T, Th)	3:00-5:00

User Orientation

Introduces new and prospective users to the SPCC facility. Following a brief description of the hardware and software available at SPCC, a short tour of the Computer Center will be given.

Introduction to CMS

Introduces the Conversational Monitor System (CMS), an operating system that allows one to edit and save files, submit batch jobs, and run jobs interactively.

BITNET Demo

BITNET is an international network of over 200 research and educational institutions through which electronic mail, messages and files may be sent. This demonstration will introduce the CMS commands necessary to send messages and files through BITNET.

Introduction to SAS

Covers the Statistical Analysis System (SAS). In addition to statistics, SAS provides software tools for data storage and retrieval, report writing, general programming, and graphics. A computer-based training package for SAS

will be part of the course. Users not attending the short course may also have access to this self-study course. Those interested should obtain the handout named "Using CBT for SAS".

Introduction to NOMAD

NOMAD is a fourth generation language, which may be used for data management, retrievals, application programming, report writing, and graphics. This demo will emphasize database description and organization using NOMAD2 syntax.

NOMAD Application Development

This is a three day course that teaches the steps necessary to set up a NOMAD2 application. Topics covered include: problem definition, writing a schema, entering, maintaining, and retrieving data, writing procedures, and report writing.

Introduction to SCRIPT

Presents the basic features of SCRIPT, a text formatting language that allows you to prepare finished typed material such as letters, reports, manuscripts and other similar documents.

The first hour of the SAS, CMS, and SCRIPT short courses is lecture, and the second hour is a terminal session in which the students may apply what they have just learned.

Note: You don't need programming experience to take SAS, NOMAD Application Development, or SCRIPT, but you do need to know how to LOGON and LOGOFF of CMS, how to use the 3270 terminal and keyboard, and how to work with files (i.e., CMS XEDIT commands).

All courses will be offered on the St. Paul Campus.

The User Orientation will be held in B45 COB (St. Paul Campus), with no registration required. To register for the courses, please obtain and complete a short course registration form from SPCC (373-0987; 50 Coffey Hall). Return it to the Main Office, 50 Coffey Hall, prior to the start of the class. Most short courses have a modest fee associated with them and require full payment before the class begins. Sorry, no refunds are made after the class begins.

If you have questions about short courses, their cost, or registration, please call Jan Jannett or Diane Suski (373-0987).

If you have a group of 6 or more people interested in any of the short courses, SPCC can schedule a class just for your group. Please contact Jan Jannett at 373-0987 to make the necessary arrangements.

SAS NOTES

Version 5 of SAS

Look for an announcement later this fall for the release of Version 5 of SAS at SPCC. Major enhancements include increased interactivity of all procedures. Many procedures have been rewritten for efficiency and portability.

New procedures and statements in Version 5 of SAS include:

- o the SAS Display Manager System. This new full screen facility allows online CMS SAS users to interact with all parts of a SAS job.
- o ACECLUS, a new procedure for preliminary data transformation to make classic clustering methods perform better.
- o CATMOD, a procedure for categorical data modeling with enhancements for log-linear models and repeated measures analysis. This procedure will replace the procedure FUNCAT.
- o COMPARE, a new procedure to compare SAS data sets.
- o LIFETEST, a new survival data procedure for product-limit and life table estimates and rank tests.
- o LIFEREG, a survival analysis procedure for fitting accelerated failure time models.
- o REPEATED, a statement that can be used in PROCs ANOVA and GLM for repeated measures analysis. Both ANOVA and GLM are now better equipped to handle repeated measures designs.
- o FOOTNOTE, a statement that can be used in DATA or PROC steps to print footnotes at the bottom of the page.
- o SYSLIN, a new procedure in the SAS/ETS product that replaces PROC SYSREG and provides two new estimation methods.
- o GANTT, a new procedure in the SAS/OR product that can be used to monitor the progress of projects and produce Gantt charts.

- o the TEMPLATE facility in SAS/GRAPH, allowing placement of graphs anywhere on any graphics device and placement of multiple graphs on a graphics page.
- o the ANNOTATE facility that allows you to customize graphs from SAS/GRAPH procedures or create your own graphics without using traditional SAS/GRAPH procedures.

Enhancements to Version 5 of SAS include the following:

- o Input to PROC CLUSTER can now be distances or coordinates. With Version 5, an additional eight clustering methods are available.
- o The FREQ procedure has many new tests and measures of association for two-way tables.
- o Several new options for regression calculations were added to PROC REG.
- o PROC RSQUARE has several new options to compute a wide variety of model-selection statistics and estimate parameters.

Revised manuals for this release of SAS are now available for purchase at SPCC. All SAS product manuals have been revised including the SAS User's Guide: Basics and SAS User's Guide: Statistics. The above two manuals each cost \$19.95 when purchased from SPCC.

Note: PROC DELETE will no longer be available in Version 5 of SAS. To erase data sets use PROC DATASETS, with the DELETE statement.

Note: Any SAS data sets created under SAS release 79.6 or earlier can only be read by Version 5 of SAS. These older sets cannot be updated. Convert these older sets to Version 5 data sets, if you wish to update them. To do that, make a copy of the older set while running under Version 5 of SAS. This can be done either by writing a DATA step or by using PROC COPY, making sure that you assign a new ddname (or first part name) to the data set. Suppose the SAS data set CARS.SALES80 was written with SAS release 79.6. The following DATA step will copy it to a Version 5 SAS data set called AUTOS.SALES80.

```
DATA AUTOS.SALES80;
  SET CARS.SALES80;
```

The following PROC step illustrates how to copy CARS.SALES80 to a Version 5 SAS data set AUTOS.SALES80.

```
PROC COPY IN=CARS OUT=AUTOS;
  SELECT SALES80;
```

With PROC COPY you can copy all data sets with the same ddname in one step. For example, there are five CARS data sets created with SAS release 79.6: CARS.SALES76, CARS.SALES77, CARS.SALES78, CARS.SALES79, and CARS.SALES80. The PROC step shown below will copy all five of these SAS data sets to AUTOS.SALES76, AUTOS.SALES77, AUTOS.SALES78, AUTOS.SALES79, and AUTOS.SALES80.

```
PROC COPY IN=CARS OUT=AUTOS;
```

The SAS System on the IBM PC

As mentioned in the June 1985 Newsletter, SPCC does intend to offer the microcomputer version of SAS. Distribution of these products will be to faculty and staff of the University of Minnesota only. The payment of the yearly fee will be by University of Minnesota budget numbers only. As of this newsletter, we expect to be able to offer the Base SAS product (the statements and procedures found in the SAS User's Guide: Basics) in early November. The Statistics product will be available in mid-Winter.

According to SAS Institute, the microcomputer products will run on IBM PC XT's or AT's under PC DOS version 2.0 and later, with a minimum of 512K of memory and at least 10 megabytes of fixed disk space.

SAS is publishing new manuals to go with the microcomputer products. The three needed for getting started with the Base SAS microcomputer product are the Introductory Guide, Procedures Manual, and Language Manual. These three manuals are currently on order at SPCC and delivery is expected in mid-October.

SPCC will offer limited consultation, via the Help Desk, on specific problems that arise in the use of SAS microcomputer products. For questions of more than 5-10 minutes duration, the user is expected to make an appointment with an applications programming staff member to arrange for contract programming. The fee for contract programming is \$30 per hour.

For further details, contact Michele Burlew, 373-0987.

SAS Disk Migration

SAS disk migration is continuing. All SAS users must be storing their permanent datasets on their own CMS disks by January 1, 1986. Each SAS user with permanent datasets will be contacted by a SPCC staff member to create a CMS minidisk and to transfer their current SAS datasets.

If your SAS datasets have already been moved to your own CMS disk, or if you don't have any SAS datasets presently, but you are planning to work on SAS through batch, please see that you have a CMS disk and that you use the LINKACC and SASBATCH NEW statements in your programs. The Help Desk consultant will help you create a CMS disk for SAS datasets.

NOMAD2 NOTES

Release 3.00 of NOMAD2

Release 3.00 of NOMAD2 has just been installed as the current version of NOMAD2. A copy of the 3.00 Release Notes will be available at no charge to anyone who has previously purchased the NOMAD2 manual.

Release 3.00 of NOMAD2 has many new features and changes that greatly expand the capabilities of NOMAD2. The major change has been the inclusion of FINAL (the financial analysis system of NOMAD2) into the general NOMAD2 product. Other major changes are the new form of the PERSPECT statement, the ability to have alternate indices for a segment, and the new debugging facility. These features are described later. Be sure to check the release notes for other new commands and changes in this release.

Users should note that the following commands have been changed.

<u>Old Syntax</u>	<u>New Syntax</u>
CMS	SYS
NOCMS	NOSYS
LOOKUP BTREE	TYPE BTREE
LOOKUP DISK	TYPE BTREE
LOOKUP CORE	TYPE STANDARD
CREATED=	DDNAME=
EXTERNALFILE=	DDNAME=

The old syntax will be supported for two more releases, but users should begin using the new syntax whenever possible.

As in every release, corrections to problems from previous releases have been made. Efficiency improvements have been added to Release 3.00 which should affect memory management, evaluation of expressions, and variable assignments.

New features from FINAL

A new report feature from FINAL is the TABLE option on the LIST request. LIST TABLE allows you to print arrays across the page instead of down.

LIST TABLE with the LAYOUT option can be used to create a spreadsheet type of report. The LAYOUT report formatting facility defines a template for the report. Each paragraph in LAYOUT describes one aspect of the report such as a column, row, titles, editing options, or computations to be performed. Once the report is defined with LAYOUT, the LIST TABLE command retrieves the data and formats it according to the LAYOUT definition.

Three decision support features now available with NOMAD2 are the WHATIF analysis, Goal Seeking, and Consolidation.

The WHATIF analysis is a form of sensitivity analysis that allows you to temporarily change the values of items in the database and see the effect these changes have on defined items.

To use the GOAL command, you tell NOMAD2 a goal value you would like for a defined item, along with the 'SEEK' item that you want to solve for. The 'SEEK' item does not need to appear directly in the expression for the defined item; NOMAD2 will set up and solve the simultaneous equations needed to get the result.

The CONSOLIDATE command allows you to process data across instances to give an aggregated summary result of one or more items. It can aggregate instances of one item, or combine similar data that may exist in two items with different names. These items may be in different masters or different databases.

For WHATIF, GOAL, and CONSOLIDATE, results can be displayed with a list request or saved in another database.

Perspect and DBEDIT

The new form of the PERSPECT statement allows you to customize your DBEDIT screens. The optional statements of the PERSPECT command allow you to specify which segments or fields to display, where they appear on the screen, screen attributes, and the number of instances to display on a screen. Multiple PERSPECT statements may be used in one schema to define different views of the database that you may want to give to different users with DBEDIT.

Alternate Indices

Using an alternate index for a segment allows you to have the segment keyed on a different item or items. The index is another segment that is paired with the real segment and contains the alternate key, the keys from the original segment to uniquely identify the instance, and other non-key items you wish to copy to the index. Using an alternate index for a segment gives you a different means of accessing the same data, which may be more efficient for a given retrieval.

Debugging Facility

The NOMAD2 debugging facility allows you to stop procedure execution at predetermined points and enter the interactive DEBUG environment. Once in the DEBUG environment you can look at the value of data items, reset data values, and issue other NOMAD2 interactive commands. There are also special DEBUG commands that allow you to determine exactly where you are in the procedure, trace back through the calling procedures, and step through your procedure one command at a time from the debugging environment.

NEW REFERENCE MANUALS

New reference manuals are now available for NOMAD2. The new manuals have incorporated the information from the old manuals plus all release notes that have been published since version 2.00. In addition, the manuals have been rewritten, and include more examples for each of the commands described. The manuals are divided into two volumes which are sold as a set for \$40.00.

Release 3.10 of NOMAD2

Release 3.10 of NOMAD2 has just arrived and will be installed as the future version of NOMAD2 sometime this Fall. The installation date will be announced in a logon message.

Listed below are some of the enhancements for this release:

- o The DBEDIT command has a MASTER option to call DBEDIT for a specific master.
- o NOMAD2 will now use 16K less of memory during initialization because of internal efficiency improvements.
- o A negating symbol is now allowed in expressions.
- o A TEXT item or &variable may now be directly assigned an alpha value.
- o The position of the cursor within a field can be controlled with &CURSORPOS.
- o Support has been enhanced for external database schemas that contain varying arrays.

Copies of the release notes will be available when Release 3.10 is installed as the future version.

MUSIC NOTES

For some time, SPCC has promoted the use of CMS as our primary operating system and accordingly the use of MUSIC has dwindled to a very low point. Now, we are announcing the discontinuation of MUSIC as of June, 1986. The announcement is made at this time to provide users adequate time to prepare for transition to CMS. Current MUSIC users can easily convert their processing to CMS by opening a CMS account and transferring their files to their CMS account. It is encouraged that this be done in advance of June 1986. Further, MUSIC users moving to CMS should consider attending the SPCC short course on CMS. SPCC has prepared a handout titled Transferring Files from MUSIC to CMS to help the MUSIC user transfer files to CMS.

There are some differences between the versions of FORTRAN and SCRIPT that are available on MUSIC and CMS. See a Help Desk consultant if you need to transfer one of these files.

St. Paul Campus Microcomputer Laboratory

Location: B50 St. Paul Library

Equipment:

Hours:

8:00 A.M. - 8:00 P.M. Mon. - Fri.

12:00 P.M. - 4:30 P.M. Sat.

Closed Sun.

Access cards: \$20.00

These cards will permit access to 3 microlabs on the Twin Cities Campuses (see below). This will increase availability of hardware/software and some consulting services.

13 IBM-PC's 4 Apple IIe's 4 Macintosh PC's

2 Disk Drives 2 Disk Drives 2 Disk Drives

256k Memory 128k Memory 512k Memory

Wordstar Appleworks MacPaint

Lotus 1-2-3 MacWrite

dBase III MacChart

Minitab Multiplan

Basic Basic

5 Epson FX-80 printers (attached to IBM)

4 Imagewriter printers

Obtain access cards from the Bursars' Office located in Coffey Hall (St. Paul), Williamson Hall (Mpls), or the West Bank Periodical Shop.

<u>Micro-Lab</u>	<u>Location</u>	<u>Phone</u>
St. Paul	B50 St. Paul Library	376-3910
West Bank	167 Social Sci. Tower	376-3544
Minneapolis	40 Folwell Hall	376-2741
	148 Architecture	376-9922
	306C Lind Hall	373-4886

Lab attendants will be present to sign out the software and manuals that are available for use in the lab. Instructors may arrange to have assignment materials distributed via the lab attendants. The lab may be reserved by class instructors for two or three class periods during a Quarter. To reserve the lab, or if you have questions, call Karen Brindle at 373-0987.

A micro computer can be reserved in person, or by calling 376-3910. Co-ordination of reservations will be handled by the lab attendant. If there is a high demand for the machines, individual sessions may be limited to 2 hours.

Users will be responsible for obtaining their own work diskettes.

MICRO HELP LINE

UCC Microcomputer Systems Group

376-4276 (dial DR MICRO) 9:30-12:00, 1:30-4:00 Monday-Friday

125 Shepherd Labs

We hope that you will enjoy the labs and inform others of their availability.

D A T A E N T R Y

The turnaround time for data entry varies with the workload. Currently, an average sized job (500 - 1000 records) takes about one to two weeks to complete.

Eighty column coding sheets are available at 6 North Hall.

Unless you have made special arrangements with SPCC to purchase tapes, they should be returned to data entry as soon as you are finished with them.

Help is available in preparing data or source documents (questionnaires, etc.) for the most efficient data entry.

For information about current turnaround time, cost estimates, or other questions, contact Linda or Cleo at 376-9222. Account numbers may be obtained at 50 Coffey Hall.

STATISTICAL CLINIC

The Statistical Clinic on the St. Paul Campus, is staffed by graduate students of the School of Statistics, and supervised by faculty members of the Applied Statistics Department. The Statistical Clinic provides statistical consulting to researchers at the University of Minnesota, generally without charge. Assistance on appropriate experimental designs and methods, data analysis, and the interpretation of results are part of the mission of the Clinic.

Many statistical problems can be handled completely by the personnel in the Clinic. However, more difficult problems will be referred to an Applied Statistics faculty member.

The consulting hours of the Statistical Clinic for the Fall Quarter, are:

Hours

Monday, Wednesday, Friday	9:00-4:00	Room: 125G COB
Tuesday, Thursday	9:00-3:00	Phone: 376-3845

REDUCED RATES FOR OFF-HOUR USERS

Computer processing performed after 5:00 pm daily (Monday thru Friday) and all day Saturday and Sunday receives a 25% reduction on 3 billable components: Central Processor Time, High Speed Input/Output (disk and tape), and Connect Time.

ACCESS TO FACILITIES

ST PAUL COMPUTER CENTER

SPCC hours, locations and telephone numbers:

Main Office	: 50 Coffey Hall	373-0987	8:00 am - 4:30 pm
Users Room and	: 90 Coffey Hall		7:00 am - 11:00 pm M-F,
Computer Hours (1)	: 90 Coffey Hall		8:00 am - 4:00 pm Sat, and
	: 90 Coffey Hall		4:00 pm - 10:00 pm Sun
Help Desk	: 90 Coffey Hall	376-4602	10:00 am - 12:00 pm M-F
			1:00 pm - 4:00 pm M-Th
			1:00 pm - 3:00 pm F
Data Entry	: 6 North Hall	376-9222	8:00 am - 4:30 pm
Interactive Dialup Number:		376-5820	

- (1) After hour, Saturday, and Sunday access to the Center may be achieved by using the tunnel passageway from the Student Center.
- (2) The DOS operating system will be shut down at 10:00 pm M-F.

MERITSS SYSTEM CONNECTION TO SPCC

Users can gain access to the IBM 4341 computer system at SPCC through the MERITSS System (Interactive Instructional Labs). There are now six ports dedicated to this type of communications traffic. Those wishing to utilize this type of access can obtain the handout named "Using SPCC's IBM Computer from the MERITSS System" from our Main Office (1 page, no charge).

CLASSROOM OFFICE BUILDING INTERACTIVE INSTRUCTIONAL LAB HOURS

	Lab Hours	Lab Attendant On Duty
Monday - Friday	8:00 am - 10:00 pm	6:00 pm - 10:00 pm
Saturday	9:00 am - 1:00 pm	9:00 am - 1:00 pm
CLOSED Sundays		

Should you be the last person out of the Lab during the hours shown above, please leave the doors unlocked (SPCC personnel are responsible for locking doors at the designated times). Thank you.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age or veteran status.

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