
ST. PAUL COMPUTER CENTER

St. Paul Campus Microcomputer Laboratory

The St. Paul Campus now has a microcomputer laboratory available for use by University students, faculty, and staff. The lab is located on the lower level of the campus library (Room B50). To gain admittance requires a "Micro Lab Access" card. The cost of the card is \$10.00 per quarter and, with appropriate ID, may be purchased through the cashiers office in Coffey Hall.

Winter Quarter Hours

Monday-Thursday
8:00AM-8:00PM

Friday
8:00AM-5:00PM

Saturday
12:00 Noon-5:00PM

Lab attendants will be present to sign out the software disks and manuals that are available for use in the lab. An instructor may use the lab attendants to distribute any class disks to students and collect the assignments. The lab may be reserved by class instructors for two or three class periods during a quarter. To reserve the lab, if you have any questions, or need further details, call Karen Brindle at 373-0987.

The lab is equipped with the following hardware and software:

13 IBM-PC's	4 Apple IIe's	2 Macintoshes
2 Disk Drives	2 Disk Drives	1 Disk Drive
256k Memory	128k Memory	512k Memory
Wordstar	Appleworks	MacPaint
Lotus 1-2-3		MacWrite
dBase III		MacChart
Minitab		Multiplan
Basic		Basic

Users will be responsible for obtaining their own work disks.

We hope that you will use the lab and will also help to inform students of its availability.

UPLOADING/DOWNLOADING DATA

It is common for users who have access to microcomputers to want to prepare data 'off-line' on their microcomputer and later upload it to a mainframe for analysis or to download data and/or output from a mainframe to a microcomputer for further work or inclusion in a document they are preparing on the microcomputer. Unfortunately, when it comes to uploading, many microcomputer communications programs do not work well with our IBM mainframe. As a solution to this problem we will be installing equipment which will allow users to transfer data between IBM PC (or other MS-DOS machine) diskettes and CMS. Our preliminary testing of this equipment indicates that it can transmit data at a much faster rate and with more reliability than can be achieved using asynchronous communications over phone lines. This equipment will be installed during winter quarter. Please look for a system announcement when this service is made available to the user public.

S T. P A U L C O M P U T E R C E N T E R

In the meantime, we still recommend the IBM 3101 EMULATOR PROGRAM as the best choice for a communications program for IBM PCs and compatibles used as terminals to our IBM mainframe.

W I N T E R S H O R T C O U R S E S

The St. Paul Computer Center will be offering short courses during the Winter Quarter. The User Orientation presentation 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.

The SAS course will cover the Statistical Analysis System (SAS), a comprehensive statistical package available on the IBM 4341 computer at SPCC. In addition to statistics, SAS provides software tools for data storage and retrieval, report writing, general programming, and graphics. Those people intending to use SAS from either MUSIC or CMS should be familiar with the respective system before attending the SAS course. 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".

The CMS course will introduce the Conversational Monitor System, an operating system that allows one to edit and save files, submit batch jobs, and run jobs interactively. SAS and NOMAD (a data base management system) may be accessed interactively through CMS.

The CMS SCRIPT course will present 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. You can specify that the text will be single or double spaced, right or left justified. SCRIPT can automatically insert page numbers and headings as well as do footnotes. Only the SCRIPT for CMS will be covered in this short course. Users interested in this course should be familiar with CMS.

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

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

SHORT COURSE NAME	DATE	TIME
User Orientation	Jan 31 (Th)	3:00-5:00
Introduction to CMS	Jan 28,30 (M,W,F) Feb 1	3:00-5:00
SAS (Statistical Analysis System)	Feb 5,7,12 (T,TH,T)	3:00-5:00
Introduction to CMS	Feb 12,14,19 (T,TH,T)	3:00-5:00
SAS (Statistical Analysis System)	Feb 21,26,28 (Th,T,Th)	3:00-5:00
Introduction to CMS SCRIPT	Feb 20,22 (W,F)	3:00-5:00

The User Orientation will be held in B45 COB (St. Paul Campus), with no registration required. To register for the other courses, please obtain and complete a short course registration form from SPCC (373-0987; 50 Coffey Hall). Return it to the

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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 Mel Sauve 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 Mel Sauve at 373-0987 to make the necessary arrangements.

CMS NOTES

VMSP 3.1

During Fall Quarter SPCC updated CMS from release 2.1 to release 3.1. We also updated CP from release 1.1 to release 3.1. The change went smoothly and judging from the extremely low number of calls received, very few users noticed it.

CMS is a relatively stable operating system and new releases generally do not require that users change their mode of operation. However, there are a few new features which many CMS users will find useful:

1. There was a new function added to the CP SET command. If you enter CP SET PF12 RETRIEVE, then CP establishes a small buffer in which your most recently entered commands are saved. When you press PF12, the most recently entered command will be placed in the input area, where you may (optionally) change it and execute it by pressing ENTER, just as if you had typed in the entire command. More than one command can normally be saved in the buffer. If you repeatedly press the retrieve PF key, CP will cycle through all of the saved commands. In this description, PF12 was used. You are not required to use PF12; any of the PF keys may be set to retrieve. The retrieve feature does not save input to any of the full screen utilities (XEDIT, BROWSE, FLIST, FILELIST, RDRLIST, NAMES etc).
2. XEDIT error messages are displayed on the top line of the screen instead of on the XEDIT command line. This allows the offending command to be left displayed on the command line, for you to correct without having to type the entire command again.
3. The XEDIT SCREEN command has been dramatically enhanced. Enter SCREEN 2 V on the XEDIT command line, and you will get a vertically split screen which allows you to compare two portions of your file, or portions of two different files, side by side. SCREEN WIDTH 25 25 30 will present you with three logical screens, side by side. The first two would be 25 characters wide, the third would be 30 characters wide. You may still split the screen horizontally as you could in the past. Use a command in the form of SCREEN n, where n is the number of logical screens you want, or SCREEN SIZE n1 n2 n3 n4, where n1, n2 etc are the number of lines to use for each logical screen. Those users who like to experiment with really bizarre commands should investigate the DEFINE form of the SCREEN command. This provides for simultaneous vertical and horizontal splits. We haven't discovered a practical use for this feature, but it sure looks impressive!

4. There is a new EXEC processor called REXX. REXX is much more of a programming language than the older EXEC or EXEC2 and those of our staff who have used it really like it. However, it is not nearly as efficient as the older EXEC processors. We advise users who write EXEC systems which will be run repeatedly and consume a lot of resources to use EXEC2. For those execs which are primarily conveniences and do not account for a big portion of your computing, the new features of REXX are worth investigating.
5. There are some new immediate commands:
 - HI - halts interpretation of the currently running EXEC2 or REXX EXEC without destroying the environment, as HX does.
 - TE - stops the tracing of EXEC2 or REXX EXECs.
 - TS - starts the tracing of EXEC2 or REXX EXECs.
6. In FILELIST and RDRLIST the dreaded EXECUTE key (pf10) has been abolished in favor of a more reasonable key (the ENTER key).
7. You may choose to format your CMS mini-disks with a blocksize of 512. The previous block sizes (1024, 2048 and 4096) are still available. The 512 blocksize allows better utilization of disk space at the expense of increased I/O (for which you are billed). We advise against the use of the 512 blocksize unless you wish to store a VERY large number (thousands or at least many hundreds) of VERY small files (less than 512 characters per file) which are not frequently used, or you have an application which requires random access to small (less than 512 characters) records.

SPOOL FILES

We recently had an 'incident' where spool files created between 7:00 AM and 1:12 PM on January 2nd were irrecoverably lost from our system. This did not affect MUSIC disk storage or CMS disk storage, but only data which was stored in CMS user's virtual readers. SPCC sincerely apologizes for any inconvenience caused by the loss of output files.

The VMSP spool file system is quite stable and generally very reliable. The event of January 2nd is very rare. Almost all of the cases where spool files have been reported missing have been related to misplaced routing information (a user error) or some other problem separate from the spool system. Besides SPCC's backup systems, VMSP automatically maintains checkpoint information which helps to protect against such failures. There are very few eventualities which are not covered by these internal precautions.

Nevertheless, it is unwise to rely on the spool system as an alternative to normal CMS disk storage. The CMS disk system is more secure than the spool system. SPCC discourages LONG TERM storage of data in spool files via the following policies:

1. Spool files older than 30 days are purged, unless they are generated by PROFS. The PROFS generated spool files are purged when they become 90 days old.

2. SPCC charges for space occupied by spool files. The rates increase as the files become older. In all cases, the cost of storing data in spool files is greater than the cost of storing the same amount of information as a CMS file.

All of this is not intended to create fear that spool output generated yesterday is in danger of disappearing. It is intended to remind users that there is a better place to store information. We advise people to look at and process their spool files everytime they logon, if that is possible. If there is a good reason to leave a file on the spool for a while, do so. But if there is no reason to do that, we urge you to read it onto a CMS disk file, print it out, or otherwise dispose of it.

SAS NOTES

Two New SAS Products

Look for an upcoming announcement on the availability of two new SAS products: SAS/FSP (Full-Screen Product) and SAS/OR (Operations Research).

SAS/FSP provides interactive, menu-driven facilities for data entry, editing, and retrieval. The full-screen procedures allow you to work with a screen of data rather than one line at a time. SAS/FSP contains five procedures:

PROC FSEEDIT for entering or editing data in a SAS data set

PROC FSBROWSE for displaying observations in a SAS data set

PROC FSLETTER for editing and sending letters

PROC FSLIST for browsing through listing files, such as output from SAS procedures, and other external files

PROC FSCALC, an electronic spreadsheet type procedure.

To execute these procedures, you issue commands and use Program Function (PF) keys on your terminal. The commands and key settings are described with each procedure. You can use the powerful programming capabilities in SAS to build a SAS data set to your specifications. Then invoke FSEEDIT or FSBROWSE to edit or display the data set.

SAS/FSP can only be invoked from CMS. Knowledge of running SAS online is necessary.

Documentation for SAS/FSP can be found in the SAS/FSP User's Guide. The FSCALC procedure is documented in SAS Technical Report: P-133. Both are available in our main office, 50 Coffey Hall.

SAS/OR is a collection of SAS procedures for business planning and scheduling using operations research tools. SAS/OR includes procedures for solving general assignment, transportation, and linear programming problems; determining minimum cost flow, maximum flow, and shortest path through a network; and scheduling activities that make up a project.

Operations research tools are directed toward the solution of management problems. Each problem is formalized with the construction of a mathematical model to repre-

sent it. These models are defined as data in SAS data sets and then analyzed by SAS/OR procedures. Since they are SAS data sets, models can be saved and easily changed or reanalyzed. Many SAS/OR procedures also output SAS data sets containing the results of the analysis.

SAS/OR contains these procedures:

- ASSIGN for assignment problems
- CPM for critical path analysis
- LP for linear programming methods
- NETFLOW for network analysis
- TIMEPLOT for plotted results from PROC CPM
- TRANS for transportation problems.

Also included are the LINPROG matrix library call routine for solving linear programs in PROC MATRIX and a conversion macro SASMPX.

Documentation for SAS/OR can be found in the SAS/OR User's Guide, and in Technical Report: P-134 "Changes and Enhancements to the SAS/OR Product, Release 82", available in our main office, 50 Coffey Hall.

PROC TAPECOPY and PROC TAPELABEL.

PROC TAPECOPY and PROC TAPELABEL are 2 procedures available to CMS SAS users with the 82 release of SAS (SPCC is currently running the 82.3 version of SAS).

The TAPECOPY procedure copies an entire tape volume (tape) or files from one or several tape volumes to one and only one output tape volume. PROC TAPECOPY can be used to copy standard-labeled or non-labeled 9-track tapes. You can specify, within limits, whether the output tape is standard-labeled (SL) or non-labeled (NL).

The TAPELABEL procedure lists the label information of an IBM standard-labeled tape volume. The information printed includes the tape label, the data set name, DCB information, and data set history. If you are unsure what files or data sets are on your tape, try the TAPELABEL procedure.

See the SAS User's Guide: BASICS manual, pages 823-840, for more complete information on these procedures. Refer to the sections for CMS users.

NOMAD2 NOTES

The newest release of NOMAD2 (release 2.02) will be installed as the current version on January 10, 1985. The new release contains the following new features:

1. DBEDIT - A Database Editor
A non-procedural screen oriented facility for database maintenance. Screens are created automatically for each master and segment in the database. The user is

presented with the items going across the screen and multiple data instances appearing down the screen.

2. DBEXPORT / DBIMPORT

Provides an easy to use facility for transporting databases from one host to another, or one operating system, to another.

There have also been a few enhancements of old commands.

1. New options to the SLIST QUERY command

2. XREF option for TRACE

There is a new Release Notes booklet called NOMAD2 2.02 Release Notes that will be available for free to users who have purchased a NOMAD2 Reference Manual. A free Reference Sheet for DBEDIT will be available describing DBEDIT and listing some useful commands.

PROFS NOTES

SPCC recently installed Release 2.1 of the IBM Professional Office System (PROFS). PROFS is an electronic mail communications system. PROFS offers a wide range of automated office functions including calendar and scheduling facilities, notes and messages, reminders, as well as the electronic preparation, storage, and retrieval, and dissemination of office correspondence within a single system or across multiple systems.

The new features of PROFS are:

1. Menu bypass for note viewing
2. Quick exit when looking at documents or distribution lists
3. Names displayed on notes in the in-basket and note log
4. Use of CMS RDRLIST for non-PROFS files
5. Consistent mail screens
6. Mail waiting indicator on the main menu
7. Improved PROFS message format
8. Support for PROFS IBM/PC(2)

DATA ENTRY

The turnaround time for Data Entry varies with the workload. Currently, an average sized job (500 - 1000 records) takes less than two weeks to complete.

For further information about current turnaround time, cost estimates, preparation of data or source documents, contact Linda or Cleo at 376-9222. Account numbers may be obtained at 50 Coffey 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.

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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, are:

Monday, Wednesday, Friday	9:00-4:30
Tuesday, Thursday	9:00-3:00

Room: 125g COB
Phone: 376-3845

REDUCED RATES FOR OFF-HOUR USERS

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

ACCESS TO FACILITIES

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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 and Saturday access to the Center may be achieved by using the tunnel passageway from the Student Center.

MERITSS SYSTEM CONNECTION TO SPCC

Users can now 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

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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

	<u>Doors Unlocked</u>	<u>Doors Locked</u>
Monday -- Friday	8:00 am	10:00 pm
Saturday	9:00 am	1:00 pm

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.

S T. P A U L C O M P U T E R C E N T E R

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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