

Are you in FOCUS?

Beginning FOCUS Training

**Tennessee Technological University
Cookeville, Tennessee**

Beginning FOCUS® Syllabus

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- Questions/Review

This manual was adapted extensively from a manual initially created by University of Nebraska at Omaha.

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What is FOCUS and how do I access it?

FOCUS is a fourth generation language, which allows you through the use of a few simple commands to extract information from a database such as ADS, FRS, HRS, OR SIS.

Access to **FOCUS** is through the **TTUMIS** system's menu.

Sign on to the **TTUMIS** system and select:

```
>UTIL to get to the UTILITY menu.
>FOCUS to go into FOCUS.
>What system?  SIS      <===== (or ADS or FRS or HRS)
>Personal or Library <P or L>? P
```

Now, you will be at the TTUMIS system's FOCUS menu.
This section shows the Tennessee Tech FOCUS menu and how to use the options on that menu on the TTUMIS Administrative computer system.

TTU Administrative User Interface

```
                Focus Menu  {U06}
What would you like to do:
```

(NOTE: Under this menu if asked for FULL file name, enter filename with extension otherwise leave extension off)

EDITEdit/Create Spec File with EDT	DIR Directory of Spec Files
DELEDelete Specification File	VIEW ... View Specification File
VIEWP ...View Print File Online	PRINT .. Print Reports
FOCUS ...Run FOCUS without Spec File	RUN Run Spec File Online
SUBMIT ..Submit Spec File to Batch	TRAN ... Move Spec File To/FromLib
RENAME ..Rename File	RETURN . Return to Last Menu
DIRLIB . Directory of Library Files	COPY ... Copy Focus Spec
PRTMAS . Print MASTER FILE descriptions	
LPRINT Print a file on a local printer	
MAIN Main Menu {M01}	
LEAVE Leave the system	
DCL..... Access Digital Control Language	

NOTES:

The EXTENSION of a FOCEXEC is **.FEX**. So if you have a focexec named GRADLIST, the complete name with the extension would be GRADLIST.FEX

EDIT	gives you access to an editor (EVE) which allows you to update and change your focexecs.
DELE	allows you to delete focexecs that you do not need anymore.
VIEWP	allows you to look at a print file on the terminal.
FOCUS	will get you into the FOCUS system interactively. ¹
SUBMIT	will send your focexec to a batch queue.

To submit a focus from the TTU FOCUS menu with variable parameters, the TTU FOCUS SUBMIT command inquires: "ENTER THE PARAMETER STRING OR BLANK". You always enter the variable name following the "&" sign and then the values that you want the variable to have. For now, though, we are not covering variables, so enter **BLANK**.

RENAME	can be used to change the name of a focexec.
DIRLIB	will show you a complete directory of focexecs in a library.
PRTMAS	will print the FOCUS MASTER FILE descriptions.
DIR	will show you a complete listing of focexecs that are in your personal directory or library if you have selected a library.

NOTES:

VIEW	will let you look at the specific focexec.
-------------	--

¹ Focus should only be used in the development and testing phase of the process. Most complete FOCUS jobs should be run in batch by using the SUBMIT command.

PRINT sends files for printing to an output queue.
RUN is used when you are testing a new focexec and want to run it online with a small selection.
TRANS will move specific focexecs from/to your personal directory and a library.
COPY will make a copy of one focexec to a file with a different name.
LPRINT sends files to be printed on your local printer attached to your terminal.

It is a good idea to include the file name of the focus request in every focus output command, so that when you have a printout you can always tell what focexec created this report. Some examples in this handout show how to include the focusname in the heading of a report. A good way to do this is to include the focus name in [...] on the right hand side of the heading line.

It is also a good idea when testing a focus to include the following line:

IF RECORDLIMIT EQ 100

This will limit the number of "finds" to 100 and you can see if your focus is working on this limited number before submitting the focus for the entire file.

NOTES:

Master File Description (MFD)

You have been provided with MFD's of the files for SIS. A short description of each is provided in the appendix area.

The MFD provides the names used to access information in SIS. The names are the same as the element identifiers in the SIS Data Base Dictionary (DBD). You can also use the alias in the MFD to access information.

To find the element identifier of a field, when you are in SIS, move the cursor to a field on the screen and press function key F2. Information concerning the field will be displayed. The name is in the upper right hand corner of the screen.

A Simple Request

The first statement in a FOCUS request is "**TABLE FILE XXXXXX**", where "**XXXXXX**" is the file you want to use. The FOCUS verb PRINT will display the information you wish to see. For example, to print student id's, names and p.o.box. To do so, use the AAFILE file. On the TTUMIS menu, choose **EDIT** and when it asks for the name, call this one **FOC101-1**. IF statements are used for selection criteria.

```
TABLE FILE AAFILE
PRINT AA002
      AA003
      AA184
IF RECORDLIMIT EQ 10      <=====limits to 10 records
END

      or
TABLE FILE AAFILE
PRINT STU_ID
      STU_NAME
      P_O_BOX
IF RECORDLIMIT EQ 10      <=====limits to 10 records
END
```

Now, exit the FOC101-1 focus with PF1 7. Choose RUN from the TTUMIS focus menu. Enter FOC101-1 for the name. On the screen you would see a list of 10 student ids, names and p.o.boxes.

Exercise 1 Prepare a report showing student name, student id,

birthdate, p.o. box, box combination and previous name.
Limit your record selection to 15 students. Include
the statements
 IF P_O_BOX GT '00000'
 IF BIRTH_DT GT '000000'

Exercise 2 Prepare a report showing student id, student name,
birthdate, p.o. box, box combination, previous name,
college, degree, and major as seen on Screen 110 on
SIS. Limit your record selection to 25 records. Add the
following statements to your program after the
RECORDLIMIT statement:

```
    IF P_O_BOX GT '00000'  
    IF BIRTH_DT GT '000000'  
    IF STU_ID GT '483549935'  
    IF ACAD_PGM_SEQ_NUM NE MISSING
```

When entering your exercises, give them names such as
FOC101-E1 and FOC101-E2.

NOTES:

A Well Formatted Report

FOCUS provides column headings on reports via the "TITLE" entry of the MFD. However, you may want to change the title, or provide additional information on the report, such as a title or footnote. Using our first example, here's how the program will look with code for a heading and footing added.

TABLE FILE AAFILE

HEADING

"STUDENT'S P.O. Boxes"

"REPORTED &DATE" <===== &DATE puts the date on report

"</1"<===== causes a skip line to be inserted in heading

FOOTING

"EXAMPLE FOC101-2"

PRINT AA002

AA003

AA184

IF AA184 GT '00000'

IF RECORDLIMIT EQ 10 <=====limits to 10 records

END

or

TABLE FILE AAFILE

HEADING

"STUDENT'S P.O. Boxes"

"REPORTED &DATE" <===== &DATE puts the date on report

"</1"<===== causes a skip line to be inserted in heading

FOOTING

"EXAMPLE FOC101-2"

PRINT STU_ID

STU_NAME

P_O_BOX

IF P_O_BOX GT '00000'

IF RECORDLIMIT EQ 10 <===== limits to 10 records

END

NOTES:

The "AS" phrase allows you to change the title provided in the MFD. For example, the title provided for STU_ID is 'student number'. Let's

change that to 'student ID'

```
STU_ID AS 'Student ID'
```

The "EDIT" phrases allows you to rearrange how information is presented on the report, eg., you want to insert '-'s in the students id number. You use EDIT in a define area. The DEFINE FILE area is actually not part of the FOCUS TABLE request and must be before the TABLE FILE statement. Continuing with our example program:

```
DEFINE FILE AAFILE
SIDEDIT/A11 = EDIT(STU_ID, '999-99-9999');
END
TABLE FILE AAFILE
HEADING
"STUDENT'S P_O_Boxes"
"REPORTED &DATE" <===== &DATE puts date in heading
"</1"           <===== skip a line at end of heading
FOOTING
"EXAMPLE FOC101-3 - WITH DEFINE AND EDIT"
PRINT SIDEDIT AS 'STUDENT ID'
      STU_NAME AS 'NAME'
      P_O_BOX AS 'BOX'
IF P_O_BOX GT '00000'
IF RECORDLIMIT EQ 10    <===== limits to 10 records
END
```

NOTES:

Exercise 3: Modify Exercise 2 to format the student id as shown in class.

Exercise 4: Add headings to the previous exercise 3. Include the date on the report.

I Need More

Often you need more information on a report than one file contains. FOCUS provides the means to join two or more files together. To do this you use the **JOIN** command. For example, we have printed student id, student names, and p.o. boxes from the AAFILE.

When looking at student information, many times you will be interested in CURRENT students. Current students have information in the RTFILE in SIS. When using JOINS and TABLE FILE, usually the best method is to choose the TABLE FILE to be the file that you are gathering your population from, eg., if you are interested in students enrolled in a specific term, you would do the following:

To do this, we must use the RTFILE as our main TABLE FILE and JOIN it to the AAFILE to get the information we want out of the AAFILE. When joining 2 files together, you always use common fields in both files to join TO THE KEY or the first part of the KEY in the joined file. In this example, you are joining to the KEY in the AAFILE.

```
JOIN STU_ID IN RTFILE TO KEY IN AAFILE AS J1
DEFINE FILE RTFILE
SIDEDIT/A11 = EDIT(STU_ID, '999-99-9999');
END
TABLE FILE RTFILE
HEADING
"STUDENT'S P_O_Boxes Who were enrolled in term: 96S"
"REPORTED &DATE" <===== &DATE puts date in heading
"</1"           <===== skip a line at end of heading
FOOTING
"EXAMPLE FOC101-4 "
PRINT SIDEDIT AS 'STUDENT ID'
      STU_NAME AS 'NAME'
      P_O_BOX AS 'BOX'
      CLASS_LEVEL AS 'CLASS'
IF P_O_BOX GT '00000'
IF KEY EQ '96S$*'
IF RECORDLIMIT EQ 10    <===== limits to 10 records
END
```

Any **DEFINE FILE** statements must be listed after the JOIN statement and before the TABLE FILE statement.

Exercise 5: Using an RTFILE join, add a define to format the student id, limit number of records to 10, print the

```

BY AA003 NOPRINT SKIP-LINE
IF RT090 NE 'N'
IF COLLEGE EQ 'BA'

```

[illegible]

Can I Print This?

Once you're satisfied with the way your report looks and confident you have the correct information, you must submit it for **BATCH** to obtain a hard copy which will print in the computer operations room of Clement Hall.

To do this, put the word **OFFLINE** at the very top of your focexec program. Then, exit the editor and select **SUBMIT** from the TTUMIS FOCUS Menu.

The following questions will then be asked:

your answer
for this run

{1} Enter Focus Spec File	EXAMP1
{2} Enter Parameter String <i.e., TERM=90F or BLANK if none>	BLANK
{3} Enter for Whom String <i.e., FOR_JANE_DOE or BLANK>	Your_name
{4} Are these transactions to feed SIS maint cycle <YES or NO>	NO
{5} Do you want to print your report <YES or NO>	YES
{6} Is the a Label Print Run < YES or NO >	NO
{7} Enter form number < ie 0=stock, 2=2part>	0
{8} Enter Number of Copies <nn>	1

Your report will then run and print in the Computer Center and you can pick it up at the Operations Window. The report name will be the same as your focexec program name.

Later, we will learn about questions {2} - how to use variable parameters in a focexec program, {4} - how to create transactions to update SIS master files, and {6} - how to create labels.

NOTES:

More Verbs and Selection

Thus far you have used the PRINT verb and minimal selection criteria through the IF RECORDLIMIT statement and IF criteria provided for you in the exercises.

IF and **WHERE** are used to limit selection to specified criteria. **Use IF when comparing a key field to a value**, eg. IF KEY EQ '95F\$*'. On other fields, they are interchangeable, so use WHERE for most of the others. You can have several IF and WHERE statements. You can also use an OR selection , eg., WHERE COLLEGE EQ 'BA' OR MAJOR_1 EQ 'CSC'. The selection operators are **EQ, LE, LT, GE, NE, FROM ... TO ..., NOT-FROM ... TO ..., CONTAINS**.

The **LIST** verb functions much the same as PRINT, however, LIST numbers each line. Including a BY option with LIST causes to numbers to start over on a change in the BY field. The following illustrates the difference between PRINT and LIST:

PAGE 1 (Using PRINT)

Student Number	Student Name	Birth Dt
000000001	Holden, Joseph C.	55/07/20
000000002	Brown, Marc	56/08/21
000000003	Jones, Thomas	60/02/03

PAGE 1 (Using LIST)

	Student Number	Student Name	Birth Dt
LIST 1	000000001	Holden, Joseph C.	55/07/20
2	000000002	Brown, Marc	56/08/21
3	000000003	Jones, Thomas	60/02/03

NOTES:

SORTING

Sorting is accomplished in FOCUS using the BY and ACROSS statements. Now we will show you how to use the BY statement. The BY command is used to sort or sequence one or more fields. The general format of the BY command is : **BY *field-name***. The PRINT verb, when used with the BY command produces a list of records sorted in the order of the sort control field. Here our previous example is changed to sort by student name. Default in sorting is the lowest value to the highest value. In other words, fields are sequenced from 0 to 9 in numeric fields and from A to Z in alphabetic fields.

```
JOIN STU_ID IN RTFILE TO KEY IN AAFILE AS J1
DEFINE FILE RTFILE
SIDEDIT/A11 = EDIT(STU_ID, '999-99-9999');
END
TABLE FILE RTFILE
HEADING
"STUDENT'S P.O. BOXES"
"REPORTED &DATE"
"</1"
FOOTING
"EXAMPLE FOC101-6 "
PRINT SIDEDIT AS 'STUDENT ID'
      STU_NAME AS 'NAME'
      P_O_BOX AS 'BOX'
      CLASS_LEVEL AS 'CLASS'
BY STU_NAME
IF P_O_BOX GT '00000'
IF KEY EQ '96S$*'
IF RECORDLIMIT EQ 10
END
```

Exercise 7:

Modify exercise 5 focexec to sort the output by class level and by student name within class level.

FOCUS Terms and Definitions

ALIAS	name given to the alternate way of referencing information in FOCUS.
DATABASE	a method of storing information. Our SIS database is stored in a format called RMS INDEXED FILES.
DBD	data base dictionary used to define the fields in the SIS database.
EXECUTE	the actual running of your FOCEXEC. On TTUMIS system you use the RUN or SUBMIT command.
FOCEXEC	name applied to a FOCUS request/program.
FOCUS	a fourth generation programming language which allows you to easily extract and manipulate information.
JOIN	term used to define a relationship between two or more file descriptions in FOCUS.
MFD	master file description, how information is defined to FOCUS.
SELECTION	limiting the information by using the IF and WHERE statements of FOCUS. Operations include EQ, LT, LE, GT, GE, FROM...TO..., NOT-FROM...TO..., CONTAINS, OMITS, READLIMIT, RECORDLIMIT, and more.
SIS	the Student Information System.
TABLE	in FOCUS, TABLE is how you tell FOCUS to access a file.
VERB	tells FOCUS what you want to do, the FOCUS verbs are PRINT, WRITE, SUM, LIST and COUNT.