A Personal Clothing Construction Guidesheet
for use in Flat Pattern Design

An Honors Thesis/Creative Project (ID 499)

by

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This project deals with clothing design and construction; the final product is a computer program which yields personalized clothing construction guidesheets for use by students in the flat pattern design course here at Ball State University. The students enrolled in HTC 300/501 actually design original garments and the patterns which will be used to make the garments. Particularly at the undergraduate level, the students do not have highly developed sewing skills, and they need step by step instructions on how to put a garment together. A commercially purchased pattern includes not only the pattern pieces, but also an instruction sheet on how to construct the garment. The students have not had written instructions in the past and have relied on the professor's knowledge of clothing construction.

The original concept for this project was formed by Dr. Sue H. Whitaker during visits to actual garment factories. She observed that in the clothing industry, all of the instructions necessary to construct basic garments are stored on a computer. She witnessed the pattern-maker retrieving the various files necessary to put together a commercial pattern guidesheet, and the idea for this project was conceived.

Dr. Whitaker later had the opportunity on campus to participate in a computer workshop which dealt with the Courseware Authoring System (CAS) and Digital Authoring Language (DAL), both of which are used by many faculty to create lessons on the VAX computer. Dr. Whitaker began to create this guidesheet program using the skills which she acquired in the computer course; however, she ran into many difficulties and was unable to complete the project.
As a computer science major with a strong interest in clothing and textiles, I was intrigued by this project because it allowed me to combine two subjects that I enjoyed. I was enrolled in the HTC 300 course when I began discussing this project with Dr. Whitaker, and I could see firsthand that there was a need for written, step by step instructions on garment construction.

I had never worked with CAS or DAL, so my work in the beginning was to learn the language and its environment. Once I had gained a working knowledge of DAL, I analyzed Dr. Whitaker's program to determine how it functioned and what the problem points were. More time and research were necessary before I was able to get the program running, but alas, I was able to taste success when it began to work! Dr. Whitaker had previously outlined some necessary expansions for the program, which I have implemented in the final project.

Once the program was functioning properly, I published it as a lesson called GUIDE21 within CAS. Within this CAS interface, the students can run assigned lessons. This lesson has been successfully tested with an entire class of HTC 300 students running the program at one time, and GUIDE21 will be used by students in the course in the future.

The compilation of this documentation has been a separate project in itself. Included are comprehensive instructions for both the students and professors, along with information which will be helpful should someone attempt to modify this project in the future.
GUIDE21
A CAS lesson developed by Sue Whitaker and Barbara Baumann for use in HTC300.

This computer program was developed to provide you with an individual guidesheet to use in the construction of your original garment. You will be asked a series of questions and your responses should be based on the design of your garment.

To run this lesson you will need the following:

a. VAX computer account. Show your BSU id in RB 165 to obtain an account. With this you get a USERNAME and a PASSWORD to allow you access to the computer.

b. CAS information. This is arranged by your instructor. For this lesson the information is as follows:
   - Group name: HTC300
   - CAS name: This is usually your first name, but there will be some variations if other students in the class have the same name.

c. Computer Terminal. To run this program you will need either a VT240 or a GIGI terminal.

Logging on the Terminal

1. Press the "control" button (on the far left of the keyboard) and while holding it down, type the letter "N" twice. Now hit the "RETURN" key (on the far right of the keyboard).
   **Once you have done this, a welcome message should appear that will ask you to select a system.

2. We will be using the Cluster, so type the letter "C" (upper or lowercase) and then press the "RETURN" key.
   **A new message will now appear which prompts you for your username.

3. Type in your USERNAME and then press the "RETURN" key.

4. Type in your PASSWORD and then press the "RETURN" key. (your password will NOT show on the screen)

5. After a variety of messages, you will see a $ (dollar sign) at the left of your screen, letting you know that you have been successful at logging on. If you get an error message, try again or ask the assistant for help.
6. At the dollar sign, type CAS and then press RETURN.

**Running the lesson in CAS**

1. After a "one moment please" screen, you should be asked for your Group Name, to which you respond with **HTC300** and press RETURN.

2. Next you will be asked for your CAS Name. This is generally your first name. (If others in the class have the same name, the instructor will give you your CAS name.) Type in your CAS name and hit RETURN.

3. You will see a Student Menu with arrows pointing to the "Assignment" selection. Press RETURN to choose this selection.

4. An Assignment Menu will appear with one or more assignments listed. Use the arrow keys (on the far right of the keyboard) to select **GUIDE21** and then press RETURN.

5. The lesson should start at this time. You must answer each question in the lesson.

6. When you complete the program, your personal guidesheet will be printed at the Printer in the front of RB134.

**Ending a Lesson**

1. When you have finished the lesson, the computer should go back to the Assignment Menu.

2. To exit, press the "PF4" button. (This is on the far upper right corner of the keypad.)

3. You should now be at the Student Menu. Type another "PF4" and you will be back at the $.

4. At the dollar sign, type in the letters "LO" (this stands for logoff) and press RETURN to log off the computer. You are now finished!! **It is very important that you get a "logged off" message;** if you don't, check with the lab assistant.
Guide21...The Instructor's Instructions

As an instructor, you should be familiar with the computer to the point that you understand the preceding instructions for the student on how to run the lesson. Moreover, there are additional responsibilities that the instructor must undertake. These responsibilities include:

a. Registering group members.

b. Adding or deleting the records of group members.

c. Assigning lessons.

d. Registering your class each semester with UCS.

The procedures for logging on are the same as those for a student; however, the menus which appear once you are in CAS will differ if you are listed as an instructor. As a group instructor, your main menu will look like this:

![COURSEWARE Group Instructor Menu]

Registering Group Members

See the section of this manual entitled "Batch Registration of Students"
Adding or Deleting Group Members

"Group Update" is the option to choose from the Group Instructor Menu. Once this is selected, the following screen will appear:

![Group Edit Menu](image)

What would you like to do?

**EDIT**
- Edit group information

**CHANGE**
- Change user information

**DELETE**
- Delete user

**LIST**
- List of users

**STUDENT**
- Register a student

**INSTRUCTOR**
- Register a group instructor

**AUTHOR**
- Register an author

**BATCHREG**
- Batch Student Registration

**EXIT**
- Exit (Same as PF4)

PF2 = Help, PF4 = Exit

Use ↑↓, then RETURN

From this menu, you can choose to delete a student from your class; subsequent screens will ask for the student’s CAS name and verify that you wish to delete the record. You may also add a student to the group by choosing the STUDENT option; however, to register an entire class of students you should follow the above instructions for registering group members.

The best way to learn about CAS is to experiment. Try the LIST option to see what it does! In order to register another instructor, choose the INSTRUCTOR selection and assign a new CAS name.

Assigning Lessons

At the "Group Instructor Menu," select the ASSIGNMENT option. A "Group Assignment Menu" will appear and from this menu you can ADD new assignments, DELETE assignments and LIST current assignments.

You will need to ADD the lesson named "GUIDE21" to the assignment list each semester.
Registering The Class With UCS

You must inform University Computing Services at the beginning of each semester during which you intend to use the lesson GUIDE21 and the group name HTC300. To do this, call the CAS system manager, Marta McCoy (1541), and tell her the group name you wish to register.

Printing the Guidesheet

Although the guidesheet is automatically printed in RB 134, it is also saved in the student's directory as GUIDE.LIS and may be sent to any printer on campus by using the assigned printer name. For example, to print in NQ 243, the student would type in the following at the dollar sign prompt: $ P_NQ243 guide.lis

Due to the fact that the names assigned to each printer are changed from year to year, I have not listed the names here; however, the lab assistants can inform the students of the current assigned printer names.

Computer Labs

Computer labs on campus which have the proper VT240 or GIGI terminals are:

RB134D: The program automatically prints out the guide sheet in RB134, so this is the simplest choice. RB 134 is the only 24 hour lab on campus.

PA 223: This lab is located conveniently in the practical arts building for use by the htc 300 class.

BL L08: This lab, which can be found in the basement of the library, is staffed with assistants who are familiar with CAS.

NQ 243: This lab also has lab assistants who are knowledgeable in CAS.

BB 220: The lab in BB220 is primarily a microcomputer lab, but there are currently five VT240 terminals located here.
Batch Registration of Students

1) Create a list of students by running the program CLASS.

```bash
$ CLASS
Type a ? at any prompt for help

Class Discipline (~Z or return to exit): htc
Course number: 300
Section number: 1
Quarter number: 3
Do you want a CAS list, or a VAXmail list (C or V)? c
Do you want username format, or first name format (U or F)? f

****** NOTICE *******
You will be responsible for duplicate names in the file. Please be aware that if people add to the class, or drop from the class, their record will be added/removed from the file in alphabetical order by last name when you run the CLASS program again.

Filename for output [3HTC300001.CRS]: class.lis
Type a ? at any prompt for help

Class Discipline (~Z or return to exit): Exit

$ type class.lis
JENNIFER 00JLBODENMILLER
DIANNA 00DIANNSMANN
BLAKE 00BLAETRUEX
DANA 00DLWILKINSO
LISA 03LAWILLIAMS

$```

****Check this file for duplicate first names. If any exist, you must edit this file and make the names unique. (i.e. Jen 1 and Jen 2) Also, if there is more than one section of the class, the lists must be combined into one.

2) To access CAS, type CAS and press RETURN.

```bash
$ CAS
```
3) CAS will prompt you for a group name (your class group), and a CAS name.

5) The Group Edit Menu is displayed; choose "batchreg."

```
    COURSEWARE Group Edit Menu
    = AUTHORING SYSTEM

Group: HTC300

What would you like to do?

EDIT       Edit group information
CHANGE     Change user information
DELETE     Delete user
LIST       List of users
STUDENT    Register a student
INSTRUCTOR Register a group instructor
AUTHOR     Register an author
>>> BATCHREG Batch Student Registration
EXIT       Exit (Same as PF4)

PF2 = Help, PF4 = Exit
```

6) CAS prompts you for the following information.

```
    COURSEWARE Batch Registration
    = AUTHORING SYSTEM

Group: HTC300

Name of input file? CLASS.LIS
Do you want a listing file? Y
Name of listing file < BSUSER_3:[00SHIITA]STUDENTS.LIS>
Do you want to confirm all entries? Y
```

7) If you chose to confirm all entries, CAS will ask you to verify each student. (This is optional.)

```
    COURSEWARE Batch Processing
    = AUTHORING SYSTEM

Add this student, YES or NO, (YES is the default)?
C.R.S. Name     UAX Name     Real Name
JENBODEN        00JLBODENMIL   BODENMILLER, JENNIFE
```
8) After the batch registration is completed, this screen appears.

![COURSEWARE Processing Statistics Screen]

Group: HTC300

4 records were processed.
4 students were added successfully.
1 students were not added.

Listing file is BSUSER.A00SHUHTAISTUDENTS.LIS

Press RETURN to continue.

9) The list feature displays all users within a group.

![COURSEWARE Group Edit Menu Screen]

What would you like to do? Group: HTC300

- EDIT: Edit group information
- CHANGE: Change user information
- DELETE: Delete user
- LIST: List of users
- STUDENT: Register a student
- INSTRUCTOR: Register a group instructor
- AUTHOR: Register an author
- BATCHREC: Batch Student Registration
- EXIT: Exit (Same as PF4)

PF2 = Help, PF4 = Exit
Use ↑↓, then RETURN

![COURSEWARE Users in HTC300 Screen]

Users in HTC300

<table>
<thead>
<tr>
<th>S. S. Name</th>
<th>Actual name</th>
<th>Status</th>
<th>RAILS Username</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLAKE</td>
<td>TRUEX, BLAKE A</td>
<td>Student</td>
<td>00BATRUEX</td>
</tr>
<tr>
<td>DANA</td>
<td>WILKINSON, DANA L</td>
<td>Student</td>
<td>00DLWILKINSO</td>
</tr>
<tr>
<td>DIANN</td>
<td>MANN. DIANN S</td>
<td>Student</td>
<td>00DSMANN</td>
</tr>
<tr>
<td>JENNIFER</td>
<td>BODENMILLER, JENNIFE</td>
<td>Student</td>
<td>00JLBODENMIL</td>
</tr>
</tbody>
</table>

* - Logged in. * - Running a lesson.
Press RETURN to continue, 'Q' to quit.>

10) Always remember to leave CAS with EXIT or "PF4."
Contact People

Marta McCoy
University Computing Services, RB 237
285-1541

Marta is the CAS system manager. She is the person to contact each quarter about registering a class under CAS. She is also the person who can help when a CAS user needs his/her id reset.

Herb Stahlke
English Department, RB 361
285-8413

Lathrop Johnson
Foreign Languages, NQ 146
285-1374

These two professors taught the DAL seminar which Dr. Whitaker attended. They have worked extensively with DAL lessons.

Sue Whitaker
Home Economics, PA 150A
285-5931

Dr. Whitaker is the person most familiar with this specific application and its history; the code and files for this project reside in her VAX account (00shwhitaker).
Sources of Help

COMPUTERWISE

The following two manuals are available through University Computing Services. Dr. Sue Whitaker owns a copy of each text.

Courseware Authoring System User's Guide
This book will answer any questions concerning CAS for the student, instructor, and author. CAS questions may also be directed to the system manager of CAS in University Computing Services.

Courseware Authoring System DAL Reference Manual
This manual was the source I used to learn the DAL language, which is the language used in GUIDE21. This text would be required to make changes to the program.

SEWINGWISE

The "Unit method..." is one which each student should own, since it is required for earlier HTC courses; therefore, it is cited as a reference for further help on the printed guidesheet.

The Singer reference book was used to derive instructions for some of the construction techniques described by the guidesheets.


How to Publish a Lesson in CAS

The following pages describe the method for publishing a lesson in CAS, such as GUIDE21. Unless GUIDE21 is deleted from the list of published CAS lessons, this procedure will not have to be repeated. If revisions are made to the program, however, it will need to be republished.

A lesson can only be published by an author. As shown in this example, the author's publishing group for this project is Dr. Whitaker's and is called PUBWHITAK. Her CAS name for this group is SUE; the password is not public information.
How to Publish a Lesson in CAS

1) Compile and link the lesson in your VAX/VMS area.

```bash
$ DAL GUIDE21.DAL
$ LINK GUIDE21
```

2) To access CAS, type the letters CAS and press the RETURN key.

```
$ CAS
```

3) CAS will prompt you for a group name (your publishing group), CAS name, and password.

```
COURSEWARE  WELCOME
AUTHORING SYSTEM
Delivery System Version 1.5

Group  )PUBWHITAK____
CAS Name )SUE_________
Password )
```
4) The Author Menu is displayed; press return to choose publish.

<table>
<thead>
<tr>
<th>Author Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>What would you like to do?</td>
</tr>
<tr>
<td>Publish a lesson</td>
</tr>
<tr>
<td>Republish a lesson</td>
</tr>
<tr>
<td>Delete a lesson</td>
</tr>
<tr>
<td>Modify lesson information</td>
</tr>
<tr>
<td>Browse through published lessons</td>
</tr>
<tr>
<td>Reports Menu</td>
</tr>
<tr>
<td>Execute a lesson</td>
</tr>
<tr>
<td>Run the system mail program</td>
</tr>
<tr>
<td>Exit menu (Same as PF4)</td>
</tr>
</tbody>
</table>

PF2 = Help, PF4 = Exit

Use ↑↓, then RETURN

5) When publishing a lesson, an author must supply this information:

<table>
<thead>
<tr>
<th>Lesson Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson name: GUIDE21</td>
</tr>
<tr>
<td>Description: PERSONAL INSTRUCTION SHEET FOR FLAT PATTERN DESIGN CLASS</td>
</tr>
<tr>
<td>Group Restriction: HTC300</td>
</tr>
</tbody>
</table>

Is the above information correct? (Y or N) Y

****A lesson can be restricted to one group. If it is restricted, it will only be available to the group specified.

<table>
<thead>
<tr>
<th>Was this lesson compiled with DAL Version 1.5 or later?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
</tr>
</tbody>
</table>

If you are not sure, type Q to quit. Otherwise, type Y or N.
6) Enter any auxiliary files the lesson requires.

After displaying this message, CAS will return to the Author Menu.
If there are no error messages, the lesson was successfully published.

Publishing lesson...

7) Always choose EXIT or press PF4 to leave CAS.
The files necessary to run Guide21 can be found in Dr. Sue Whitaker's VAX account. Her VAX address is: **BS$USER_3:00$WHIT**

The program may be run directly from her area by typing the following at the "$": $ run bs$USER_3:00$WHIT$irective

Using this method of running the program bypasses the CAS interface, and would therefore be of use to anyone not registered in the course.

The protection has been set on all of the files necessary for the program so they cannot be deleted without first setting the protection.

The following are the data files which contain instructions for various garment construction techniques:

- **STAYST.**
- **TUCK.**
- **FLATFELL.SM**
- **OTHER.SM**
- **FLY.ZIP**
- **SHIRT.CL**
- **SHAWL.CL**
- **NO.SLV**
- **SETELASTIC.SLV**
- **RAGLAN.SLV**
- **ELASTIC.WST**
- **GATHERFIT.WST**
- **OTHER.WST**
- **BOY.BND**
- **INSEAM.PKT**
- **OTHER.PKT**
- **BUTTONHOLE.CLS**
- **OTHER.CLS**
- **FLARED.HEM**

The following are necessary files to run the Guide21 program. Guide21.dal is in fact the source code for the program, while guide21.exe is the executable file. Swnames.lis is a list of the data files above.

- **GUIDE21.DAL**
- **GUIDE21.OBJ**
- **GUIDE21.EXE**
- **GUIDE21.PR**
- **GUIDE21.RST**
- **SUMMARY.LIS**

The following files are created within the student's directory.

Guide.lis contains the individualized guidesheet and may be printed to any printer which is connected to the VAX.

- **COPY.COM**
- **GUIDE.LIS**
- **GUIDE21.PRM**
- **GUIDE21.RST**
Surveys and Correspondence

In an attempt to determine the need for the guidesheet program, surveys were sent to students who took the HTC 300 course during both the fall and winter quarters of the 1987-88 school year. Samples of the surveys and letters sent to these students can be found on pages 20 - 22. The results of the questionnaire revealed that the students were often unsure of the proper garment construction techniques, and that many of the students did not know where to go for help beyond asking for the professor's assistance. All of the students polled felt that it would have been helpful to have a personalized instruction sheet which explained how to sew the garment together.

The GUIDE21 program was successfully tested with a group of HTC 300 students during the spring of 1988. A comparable questionnaire, which can be found on page 23, was given to these students to complete after they had used the guidesheets to aid them in the construction of their garments. All of the students who filled out the survey agreed that it was helpful to have a personalized guidesheet.

In summary, the feedback from the students confirms the fact that there is a need for such a program as the one presented here; furthermore, it has been shown that the program can be a helpful tool in the flat pattern design course. Now that the program has been successfully developed, it is left to the professors and students of the future to realize its potential.
April 14, 1988

Hello!

Since you were a student in last quarter’s Flat Pattern Design Class, I am asking your help in providing some information about the course. I am working on a project with Dr. Sue Whitaker which will try to help the students in future flat pattern classes.

We are writing a program on Ball State’s computer which will create a personalized guide sheet of instructions on how to construct a garment once the pattern has been designed. The way the program works is that it asks questions about the garment design and then it prints out instructions based on the student’s answers. The instructions also point the student to specific reference books and gives page numbers to look at for further help.

We are trying to assess the need for such a program as ours, and we would greatly appreciate your help in this process. Please fill out the enclosed questionnaire and return it to Dr. Whitaker as soon as possible.

Thank you,

Barb Baumann
April 14, 1988

Hello!

Since you were a student in last fall quarter's Flat Pattern Design Class, I am asking your help in providing some information about the course. I am working on a project with Dr. Sue Whitaker which will try to help the students in future flat pattern classes.

We are writing a program on Ball State's computer which will create a personalized guide sheet of instructions on how to construct a garment once the pattern has been designed. The way the program works is that it asks questions about the garment design and then it prints out instructions based on the student's answers. The instructions also point the student to specific reference books and gives page numbers to look at for further help.

We are trying to assess the need for such a program as ours, and we would greatly appreciate your help in this process. Please fill out the enclosed questionnaire and return it to Dr. Whitaker as soon as possible.

Thank you,

Barb Baumann
Flat Pattern Design Course Questionnaire

Directions: Please answer each question by checking the appropriate response.

1. Had you ever sewn before taking the HTC sequence? YES____ NO____

2. How many garments have you made within the past year?

   0-5____  6-10____  11-15____  16 or more____

3. Do you enjoy sewing?

   YES____ Usually____ Sometimes____ NO____

4. Once the pattern was designed in HTC 300 and you were ready to begin work on your actual garment:

   Did you know how to construct your garment?

   YES____ Usually____ Sometimes____ NO____

   Did you feel comfortable working on your own?

   YES____ Usually____ Sometimes____ NO____

   Did you rely on the professor to tell you what steps to follow in constructing your garment?

   YES____ Usually____ Sometimes____ NO____

   Did you know where else to go for help besides the professor/graduate assistant?

   YES____ Usually____ Sometimes____ NO____

   Do you think it would have been helpful to have a personalized instruction sheet which explained how to sew the garment together?

   YES____ Usually____ Sometimes____ NO____

5. Please include any comments you have about the course or about our project which you think might be helpful. Feel free to use the back of this page.

Thank you for help!
Please return to:
Dr. Sue Whitaker
Department of Home Economics
PA 150
Flat Pattern Design Course Questionnaire

Directions: Please answer each question by checking the appropriate response.

1. Had you ever sewn before taking the HTC sequence? YES____ NO____

2. How many garments have you made within the past year?
   - 0-5____
   - 6-10____
   - 11-15____
   - 16 or more____

3. Do you enjoy sewing? YES____ Usually____ Sometimes____ NO____

4. Once the pattern was designed in HTC 300 and you were ready to begin work on your actual garment:
   - Did you know how to construct your garment? YES____ Usually____ Sometimes____ NO____
   - Did you feel comfortable working on your own? YES____ Usually____ Sometimes____ NO____
   - Did you rely on the professor to tell you what steps to follow in constructing your garment? YES____ Usually____ Sometimes____ NO____
   - Did you know where else to go for help besides the professor/graduate assistant? YES____ Usually____ Sometimes____ NO____
   - Do you think it was helpful to have a personalized instruction sheet which explained how to sew the garment together? YES____ Usually____ Sometimes____ NO____

5. Please include any comments you have about the course or about our project which you think might be helpful. Feel free to use the back of this page.

Thank you for help!
Please return to:
Dr. Sue Whitaker
Department of Home Economics
PA 150
A Sample Guidesheet...
STAYSTITCHING

The purpose of staystitching is to keep the garment edges from stretching out of shape as the garment is handled during construction. Specific areas which need staystitching are the neckline and armscye.

Staystitching is a row of regular machine stitching through a single thickness of fabric. The line of stitching should be placed 1/2 inch from the edge. Staystitching is done with the grain, usually from the widest to the narrowest part of the garment.

For more information on staystitching see page 57 of the Unit Method of Clothing Construction.

GATHERS

Gathers give a soft, rounded shape which is easy to fit and comfortable to wear. They may be found at the waistline, sleeves, cuffs, yoke, or neckline. They are formed when a larger piece of fabric is drawn up to fit a smaller piece.

Gathers start with two stitching lines on a long piece of fabric. The threads are then pulled at each end to draw up the fabric so that it can be sewn to a shorter length of fabric.

1. Set stitch length to baste (6 - 8 stitches per inch). If you loosen the upper thread tension, it will be easier to gather up the fabric. STITCH 5/8" from the raw edge starting and ending at seamline. STITCH a second row in the seam allowance, about 1/4" away from the first row.

2. PIN the stitched edge to the corresponding garment piece, with right sides of the fabric together. Match seams, notches, and other markings.

3. PULL both bobbin threads, sliding the fabric along the threads to gather.

4. PIN gathers in place at frequent intervals, distributing gathers evenly between pins.

5. Reset stitch length and tension for regular sewing. STITCH with gathered side up, just outside the 5/8" gathering line.

6. TRIM seam allowances of any seams that have been sewn into the stitching line, trimming off corners at a diagonal.

7. PRESS seam allowance on wrong side, then open garment and press seam in the direction it will lie in the finished garment. *** Press seam toward gathers for puffy look, toward garment for a smoother look.

See pages 71-72 in the Unit Method of Clothing Construction for further help.

FRENCH SEAM
French seams are best suited to lightweight fabrics, especially sheer fabrics. A French seam should be used only on straight seams (such as those found at the bodice shoulder and side seams and skirt seams). A plain seam would need to be used for curved areas (to set in-sleeves, put on a collar or facing.

1. **PIN WRONG** sides of fabric together.

2. **STITCH** fabric together 3/8 inch from the edge.

3. **TRIM** the seam allowance to about 1/8 inch.

4. **FOLD RIGHT** sides together with stitching line exactly on fold.

5. **PRESS** the seam flat.

6. **STITCH** 1/4 inch from the fold.

7. **PRESS** the seam to one side.

For more information of the French seam see page 77 of the Unit Method of Clothing Construction.

**PLAIN SEAM**

To make a plain seam, pin fabric right sides together and stitch, backstitching at the beginning and the end of the seam. On the wrong side of the fabric, **PRESS** the seam flat, then **PRESS** seam open. The seam edges may be finished by:

A. pinking and stitching the edges.
B. machine zigzaging the edges.
C. machine overcasting the edges.
D. binding the edges (this is especially neat for an unlined jacket).
E. turning and stitching under the raw edges (turn under 1/8 inch or less of seam allowance and stitch).

For more information on these types of seam finishes see pages 77-80 of the Unit Method of Clothing Construction.

**ZIPPER**

Since you do not have a zipper, you will need to proceed on to finish your neckline.

**FITTED FACIA ON A V OR ROUNDED NECKLINE**

Before applying the neckline facing you should have put in the zipper if one is needed and joined the shoulder seams together. **PRESS** shoulder seams open.

1. Interface the facing pieces. With right sides together join the facing pieces at the shoulder seam. **PRESS** seams open. Finish the outside edge of the facing with the same finish that was selected to finish the seams.

2. Pin facing to the neck of the garment with right side together matching shoulder seams and notches. **Stitch in place 5/8 inch**
from edge. If garment has a V neckline stitch twice in the V area to reinforce.

3. Trim, grade and clip the neckline seam. Turn facing to the wrong side of the garment and press with the point of the iron.

4. Understitch from the right side of the garment through the facing and the seam allowance. If topstitching is desired understitching may not be necessary.

5. Tack the facing to the garment at the shoulder seam and zipper, if one has been used. PRESS well.

For more information on fitted neckline facings see pages 83-85 of Unit Method of Clothing Construction.

SET-IN SLEEVE WITH HEM

In this section you will be given directions for a plain (smooth cap) set-in sleeve. If your sleeve has gathers, pleats, or tucks you will need to do these before setting in the sleeve.

To make the sleeve:

1. Put two rows of ease stitching from notch to notch around the cap of the sleeve. One row is 5/8 inch from the edge and the second is 1/2 inch from the edge.

2. With right sides together stitch the underarm seam of sleeve. Finish the seam in the manner other seams have been finished on the garment.

3. The hem in the sleeve should be finished in the same way as the hem in the garment. Please refer to the hem directions given later in the guidesheet.

To set sleeve into bodice:

1. Pull ease thread from both sides to form a cap. In a plain sleeve there should not be gathers, just a smooth cap.

2. Pin sleeve into armseye with right sides together matching at shoulders and underarm seam. HAND BASTE sleeves in and try on to check fit. (Need to have both sleeves in before trying on garment.)

3. If fit is acceptable machine stitch sleeves in place. Stitch first at 5/8 inch and then stitch a second time around the sleeve at just inside the 5/8 stitching line. This will reinforce the sleeve.

4. On all fabrics except sheer ones trim our the bottom (underarm) area of sleeve from notch to notch. Finish sleeve seam with a zigzag stitch.

On a sheer fabric the sleeve may be trimmed down to 1/4 to 3/8 inch all the way around the sleeve and the raw edge bound with a bias tricot tape as a seam finish.

5. Press only the seam allowance of the sleeve. DO NOT PRESS into the sleeve cap.

For more information on the set-in sleeve with a hem see pages 108-11 of the Unit Method of Clothing Construction.

WAISTLINE WITH A BODICE THAT IS GATHERED ONTO A FITTED SKIRT

This dress has bodice which gathered in to fit onto a fitted skirt.
1. All seams on the bodice and skirt should be PRESSED open and finished before joining the two together.
2. Stitch two rows of ease stitching around the bottom of the bodice. Pull threads of ease stitching to make bodice fit the skirt.
3. With right sides together pin bodice to skirt matching side seams, center front and center back. Stitch seam 5/8 inch from edge.
4. Machine zigzag seam allowance edges together to finish the seam. PRESS the waistline seam up into the bodice.

For more information on putting a waistline which has a gathered bodice onto a fitted skirt see page 120 in the Unit Method of Clothing Construction or see your instructor.

SPECIAL PROBLEM WAISTBAND

Since you do not have a skirt or pants you do not need any directions on the waistband.

NO POCKETS

Since your garment does not have pockets you can proceed on to the next construction step.

BUTTONS AND BUTTONHOLES

Buttons and buttonholes are a pretty universal method of closure. They are used extensively on blouses and shirts.

1. Transfer the markings for button and buttonhole location to your garment. Know if you are making vertical or horizontal buttonholes.
2. Buttonholes will be made on the electronic machine. To use this you are required to get assistance from either the instructor or the graduate assistant.
3. Once buttonholes are made you are ready to cut. Cut through the center being careful not to cut the bar tacks at each end.
4. Mark the location of buttons. If the buttonhole is vertical the button goes in the center of the opening. If the buttonhole is horizontal the button is marked 1/8 inch from the outside end of the buttonhole.
5. Sew the button on using a double thread. If fabric is heavy you may have to make a shank if using a flat button. To make a shank insert a spacer while sewing on the button. Remove spacer and wrap thread around the thread between fabric and button to form a thread shank. Secure end of thread.
6. Flat buttons may be attached using the sewing machine if the special foot is available.

For more information on making buttonholes and dewing on buttons see pages 94-5 and 105 of the Unit Method of Clothing Construction.
DRESS/SKIRT WITH A FULL STRAIGHT SKIRT

The hem finish selected should reflect the type of fabric used in construction of your garment. The methods suggested would work on any type of fabric suited to this style of garment.

1. Measure and mark hem to determine the correct length of the finished garment. Wear belts and appropriate shoes when marking hem.
2. Pin up hem at markings and try on to check length and general appearance.
3. A straight skirt/dress with a full skirt should have no more than two inches of hem. Measure depth of hem from bottom of garment. Mark and cut to get width of hem even.
4. Finish the raw edge of the hem in the same way in which you finished the seams.
5. Pin hem in place. Hand stitch hem using the stitch recommended for the edge finish.
   a. turned under edge finish uses the blind lock stitch.
   b. pinkle and stitched edge finish uses the hemming stitch.
   c. bound edge finish uses the hemming stitch.
   d. machine zigzag uses the hemming stitch.
   e. machine overcast uses the hemming stitch.
6. Once the hem is completed remove pins and PRESS the hem well.

NOTE: If the fabric used is a lightweight sheer a machine hem which has been turned under twice would be acceptable.

For more information on the hem for a dress/skirt with a full straight skirt see page 138-13 of the Unit Method of Clothing Construction.

With the completion of the hem you have completed your garment. You should now give the garment a good FINAL PRESSING.
The Program...
INTRODUCTION TO THE LESSON GUIDE TO BE USED IN HTC 300.
This describes the objectives and purpose of the program.

UNIT
LOAD
OPEN "BS$USER_3:[00SHWITA]SWNAMES.LIS",0,READ
FOR N:=1,57
   GET 0, OPTIONS[N,1]
   ASSIGN OPTIONS[N,2] := "0"
ENDFOR
CLOSE 0

This unit will load the files from the array.

-------------------------

type guide21.dai
LESSON GUIDE21
CCOLOR ALL
FCOLOR BLUE
BCOLOR DARK
DEFINE OPTIONS[57,2]:STRING
DEFINE N:INTEGER
DEFINE SUMMARY:STRING, PERMANENT
DEFINE COPY:STRING

DO LOAD
DO TITLE
DO INTRO
DO FABRIC
DO STAYST
DO SHAPING
DO SEAMS
DO ZIPPER
DO NECKLINE
DO SLEEVES
DO WAISTLINE
DO BAND
DO POCKETS
DO CLOSURES
DO HEM
DO DISPLAY
DO SUMFILE
DO PRINT

-------------------------
The unit TITLE will introduce the student to the program.

The purpose of this program is to provide you with a guidesheet that will aid you in constructing the garment that you have designed for this class. As you move through the program, you will be asked to respond to various questions about your original design.

Each question is on a separate screen. After you have answered a question you will need to PRESS RETURN to get the next screen. The RETURN key is located on the right hand side of the keyboard.

WANT TO TRY IT?

MODE INVERSE
AT 1850
WRITE PRESS RETURN
MODE NORMAL
PAUSE
ERASE
GOOD! You are now on the next page. If you will do this each time you have answered a question, you will be able to proceed through the program.

DIRECTIONS: As you move through the program you will be asked to respond to various questions about the design of your garment. Please be very careful in answering each question as the response will determine the printed directions you are given for constructing your garment.

NOTE: If you hit the wrong letter, you can use the DELETE key to erase your answer and then you can replace it with the correct one. (The DELETE key is on the upper right-hand part of the keyboard.) For each question, press RETURN after you have selected an answer.

1. WHAT TYPE OF FABRIC ARE YOU USING FOR YOUR GARMENT?
   A. Lightweight synthetic/cotton blend
   B. Medium to heavy weight synthetic/cotton blend
   C. Lightweight 100% synthetic
   D. Medium to heavy weight 100% synthetic
   E. Lightweight knit
   F. Medium to heavy weight knit
   G. Other

This unit is designed to allow the student to identify the type of fabric they are using in constructing their garment. This will determine the type of construction techniques used.
This unit allows the student to determine if he/she needs to do staystitching. If you are sewing on a woven fabric and have curved edges (neckline/armscye) you will need to do staystitching.

It is not always necessary for one to do staystitching. The type of fabric and the design on the garment will determine if staystitching is necessary. If your fabric is a woven fabric and/or if you have curved edges (neckline/armscye) you will need to do staystitching.
The purpose of the dart unit is to determine what type of shaping techniques are used in his/her garment.

UNIT  SHAPING
AT    105
SIZE  2
ITALICS -20
WRITE SHAPING
ITALICS 0
AT    509
SIZE  1
WRITE Shaping a flat piece of fabric to the curves of your figure can be accomplished with several different shape building techniques. Darts, gathers, pleats, and tucks all work to control fabric fullness, but each creates a different effect.

AT  1010
WRITE WHAT SHAPING TECHNIQUE DOES YOUR GARMENT HAVE?
AT  1215
WRITE A. Darts
B. Gather
C. Tucks
D. Pleats
E. None
AT  1815
MODE INVERSE
WRITE RECORD YOUR RESPONSE AND PRESS RETURN
MODE NORMAL
QUERY *
RIGHT A:B:C:D:E
WRONG
.  WRITE VALID CHOICES ARE A - E.
.  PAUSE ELAPSED,3.0
ENDQ
TEST RESPONSE
VALUE "A","A"
.  ASSIGN OPTIONS[2,2]:="1"
VALUE "B","b"
.  ASSIGN OPTIONS[3,2]:="1"
VALUE "C","c"
.  ASSIGN OPTIONS[4,2]:="1"
VALUE "D","d"
.  ASSIGN OPTIONS[5,2]:="1"
VALUE "E","e"
.  ASSIGN OPTIONS[2,2]:="0"
ENDTEST
ERASE

The purpose of this unit is to determine the type of seams and seam finishes needed on the garment. No response is needed from the student as this is what is needed will be determined from the type of fabric being used and the style of garment being made.
The type of seams and seam finishes used will be depend in large part on the type of fabric being used. To a smaller extent the design of the garment affects the choice of seams and seam finish.

You will not be selecting a particular type of seam or seam finish to use, but rather recommended types of seams and seam finishes will be given to you on your guide sheet. The recommendations will be made based on your fabric type and the style of garment you are making.

The unit will allow the student to determine if he/she needs instructions for putting in a zipper and if so what type of zipper.

The zipper may be necessary to allow you to get your garment on and off. This is especially true with a skirt or pants. If a zipper is needed a lapped zipper will be used unless a fly zipper is needed for pants.

What type of zipper do you need for your garment?

A. I do not have a zipper
B. Lapped Zipper
C. Fly-front Zipper
D. Other

Record your response and press return.

Valid choices are A - D.
This unit will allow the student to identify the type of neckline on the garment.

UNIT NECKLINE
AT 105
SIZE 2
ITALICS -20
WRITE NECKLINE
AT 310
ITALICS 0
SIZE 1
WRITE The neckline of any garment is either finished as a plain neckline (without a collar) or with a collar. Select the neckline description that best describes your garment design.
AT 710
WRITE WHAT TYPE OF NECKLINE DO YOU HAVE ON YOUR GARMENT?
AT 910
WRITE A. A V, square, or rounded neckline without a collar
B. A shirt style collar
C. A convertible collar
D. A Peter Pan collar
E. A shawl collar
F. A band collar (with or without tie)
G. Other

AT 1710
MODE INVERSE
WRITE RECORD YOUR RESPONSE AND PRESS RETURN
MODE NORMAL
QUERY *
RIGHT A:B:C:D:E:F:G
WRONG
. WRITC VALID CHOICES ARE A - G.
. PAUSE ELAPSED, 3.0
ENDQ
TEST RESPONSE
VALUE "A", "a"
. ASSIGN OPTIONS[15,2] := "1"
VALUE "B", "b"
. ASSIGN OPTIONS[16,2] := "1"
VALUE "C", "c"
. ASSIGN OPTIONS[17,2] := "1"
VALUE "D", "d"
. ASSIGN OPTIONS[18,2] := "1"
VALUE "E", "e"
. ASSIGN OPTIONS[19,2] := "1"
VALUE "F", "f"
The purpose of this unit is to identify the type of sleeves found in the original garment.

UNIT SLEEVES
AT 105
SIZE 2
ITALICS -20
WRITE SLEEVES
AT 310
ITALICS 0
SIZE 1
WRITE The armscye of your garment can be finished in several ways, including sleeveless. Select the description which describes your sleeves.

AT 610
WRITE WHAT TYPE OF SLEEVE IS IN YOUR GARMENT?
AT 815
WRITE A. Sleeveless
B. Set in sleeve with hem
C. Set in sleeve with cuff
D. Set in sleeve with elastic at wrist
E. Dolman sleeve with hem
F. Kimono sleeve with hem
G. Raglan sleeve with hem
H. Other

AT 1615
MODE INVERSE
WRITE RECORD YOUR RESPONSE AND PRESS RETURN
MODE NORMAL
QUERY *
RIGHT A:B:C:D:E:F:G:H
WRONG
. WRITE VALID CHOICES ARE A - H.
. PAUSE ELAPSED,3.0
ENDQ
TEST RESPONSE
VALUE "A", "a"
. ASSIGN OPTIONS[22,2]:="1"
VALUE "B", "b"
. ASSIGN OPTIONS[23,2]:="1"
VALUE "C", "c"
. ASSIGN OPTIONS[24,2]:="1"
VALUE "D", "d"
. ASSIGN OPTIONS[25,2]:="1"
VALUE "E", "e"
. ASSIGN OPTIONS[26,2]:="1"
VALUE "F", "f"
. ASSIGN OPTIONS[27,2]:="1"
VALUE "G", "g"
. ASSIGN OPTIONS[28,2]:="1"
VALUE "H", "h"
. ASSIGN OPTIONS[29,2]:="1"
ENDTEST
ERASE
This unit will determine if the garment has a waistline seam and then provide instructions for completing the seam.

UNIT WAISTLINE
AT 105
SIZE 2
ITALICS -20
WRITE WAISTLINE
ITALICS 0
AT 310
SIZE 1
WRITE If you have made a dress it is possible that you have a waistline, although not all dresses have a waistline. The way in which a waistline is finished may vary. If you have no waistline select A, but if you have a waistline select the letter that best describes the type of waistline on your dress.
AT 910
WRITE WHAT TYPE OF WAISTLINE DO YOU HAVE ON YOUR DRESS?
AT 1015
WRITE A. No waistline
   B. Elastic without a seam
   C. Elastic with a seam
   D. Fitted, both bodice and skirt
   E. Bodice gathered onto a fitted skirt
   F. Skirt gathered onto a fitting bodice
   G. Bodice gathered onto a gathered skirt
   H. Other
AT 1915
MODE INVERSE
WRITE RECORD YOUR RESPONSE AND PRESS RETURN
MODE NORMAL
QUERY *
RIGHT A;B;C;D;E;F;G;H
WRONG
   WRITC VALID CHOICES ARE A - H.
   PAUSE ELAPSED, 3.0
ENDQ
TEST RESPONSE
VALUE "A", "a"
   ASSIGN OPTIONS[30,2]:="1"
VALUE "B", "b"
   ASSIGN OPTIONS[31,2]:="1"
VALUE "C", "c"
   ASSIGN OPTIONS[32,2]:="1"
VALUE "D", "d"
   ASSIGN OPTIONS[33,2]:="1"
VALUE "E", "e"
   ASSIGN OPTIONS[34,2]:="1"
VALUE "F", "f"
   ASSIGN OPTIONS[35,2]:="1"
VALUE "G", "g"
   ASSIGN OPTIONS[36,2]:="1"
VALUE "H", "h"
   ASSIGN OPTIONS[37,2]:="1"
ENDTEST
ERASE
The unit is designed for those students who are making either a skirt or a pair of pants.

If you have designed either a skirt or a pair of pants you will need to attach a waistband. For the female student the steps for doing either are the same. For the male student the steps for putting on a waistband are slightly different. Select your response accordingly.

WHAT TYPE OF DIRECTIONS DO YOU NEED FOR A WAISTLINE?
A. I do not have a waistband
B. I need directions for a waistband for a female
C. I need directions for a waistband for a male

If the student has a pocket this unit will allow the student to identify the type of pocket that is on/in his/her original garment.

The use of pockets in your garment was optional. However, if
you have designed a garment with pockets you can get instructions for making the pockets by identifying the types of pockets used.

AT WRITE WHAT TYPE OF POCKETS DOES YOUR GARMENT HAVE?
AT WRITE A. My garment does not have pockets.
B. Patch pockets
C. Inseam pockets
D. Inset (slant) pockets
E. Buttonhole pockets
F. Other

AT 1815 MODE INVERSE WRITE RECORD YOUR RESPONSE AND PRESS RETURN MODE NORMAL QUERY * RIGHT A:B:C:D:E:F WRONG . WRITC VALID CHOICES ARE A - F. PAUSE ELAPSED,3.0 ENDQ TEST RESPONSE VALUE "A","a"
VALUE "B","b"
VALUE "C","c"
VALUE "D","d"
VALUE "E","e"
VALUE "F","f"
ENDTEST ERASE

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The unit is for the student who needs a closure other than the zipper. It is possible that a student may need more than one type of closure.

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UNIT CLOSURES ITALICS -20 AT 105 SIZE 2 WRITE CLOSURES ITALICS 0 AT 310 SIZE 1 WRITE Not all garments have closures. If you have used a zipper you may also need to use another type of closure. You may also need more than one type of closure.

AT 710 WRITE WHAT TYPE OF CLOSURE DO YOU NEED TO USE?
AT 215 WRITE A. Hook and eye at the top of a zipper on a dress
B. Hook and eye on a skirt or pants band
C. Buttons and buttonholes
This unit will get the student directions on the type of hem that is appropriate for them to use depending upon the type of garment being made and the type of fabric used.

UNIT HEM
AT 105
SIZE 2
WRITE HEM
AT 305
SIZE 1
WRITE The type of hem used to finish a garment is dependent upon both the fabric and style of the garment. The type of fabric used to make your garment was identified earlier. Additional information on your garment design will help to determine the type of hem needed.
AT 910
WRITE WHICH OF THE FOLLOWING BEST DESCRIBES YOUR GARMENT?
AT 1015
WRITE A. Dress/skirt with a straight skirt  
B. Dress/skirt with a full straight skirt  
C. Dress/skirt with a flared skirt  
D. Pants  
E. Other  
AT 1615
MODE INVERSE
WRITE RECORD YOUR RESPONSE AND PRESS RETURN
MODE NORMAL
QUERY *
RIGHT A:B:C:D:E
WRONG
This unit will display for the student a summary of his/her responses as they worked through the program. The student may at this point make changes in their choices before the guidesheet is printed.

UNIT DISPLAY
AT 105
SIZE 2
ITALICS -20
WRITE SUMMARY OF YOUR RESPONSES
ITALICS 0
AT 310
SIZE 1
WRITE Based on your responses the directions for the following will be printed to help you construct your garment:
AT 615
FOR N:=1,57
. IF OPTIONS[N,2]="1"
. . WRITE "<S,N>" "<S,OPTIONS[N,1]>
. ENDIF
ENDFOR
AT 1810
WRITE If after reviewing the list you wish to review and/or change any of the items selected, type in the number listed in front of the item. If you wish no changes press the letter P and PRESS RETURN.

INPUT
ASSIGN RESPONSE:=UPPER(RESPONSE)
BRANCH RESPONSE="P",$LABEL
TEST NUMBER(RESPONSE)
VALUE 1..57
. ASSIGN OPTIONS[NUMBER(RESPONSE),2]:="0"
OTHER
. AT 2210
. WRITE VALID CHOICES ARE 1 - 57, OR P. PRESS RETURN TO CONTINUE.
. PAUSE
. ERASE
. REDO
ENDTEST

TEST NUMBER(RESPONSE)
This unit will provide the instructor with a listing of the choices made by the student.

UNIT SUMFILE
OPEN "bsuser_3:00shwhita\SUMMARY.LIS",0,WRITE
PUT 0,NAME
FOR N:=1,57
   IF OPTIONS[N,2]="1"
      PUT 0,OPTIONS[N,1]
   ENDIF
END

VALUE 1
   . ERASE
   . DO STAYST
   . REDO
VALUE 2.5
   . ERASE
   . DO SHAPING
   . REDO
VALUE 6.10
   . ERASE
   . DO FABRIC
   . REDO
VALUE 11.14
   . ERASE
   . DO ZIPPER
   . REDO
VALUE 15.21
   . ERASE
   . DO NECKLINE
   . REDO
VALUE 22.29
   . ERASE
   . DO SLEEVES
   . REDO
VALUE 30.37
   . ERASE
   . DO WAISTLINE
   . REDO
VALUE 38.40
   . ERASE
   . DO BAND
   . REDO
VALUE 41.46
   . ERASE
   . DO POCKETS
   . REDO
VALUE 47.52
   . ERASE
   . DO CLOSURES
   . REDO
VALUE 53.57
   . ERASE
   . DO HEM
   . REDO
ENDTEST
$LABEL
ERASE
This unit will print the guidesheet!!!!!!!!!!!

UNIT
DO  LIB$SPAWN("DELED sys$login:GUIDE.LIS;*")
OPEN  "sys$login:GUIDE.LIS",0,write
PUT  0,"HTC300 PERSONAL GUIDE SHEET"
CLOSE  0
ASSIGN COPY:="COPY sys$login:GUIDE.LIS"
FOR  N:=1,57
  IF   OPTIONS[N,2]= "1"
    ASSIGN COPY:=COPY","+OPTIONS[N,1]
  ENDIF
ENDFOR
ASSIGN COPY:=COPY","sys$login:GUIDE.LIS"
DO  LIB$SPAWN("DELED sys$login:COPY.COM;*")
OPEN  "sys$login:COPY.COM",1,write
; SW is a logical name for bs$user_3:[00shwhita]
PUT  1,"ASSIGN BS$USER_3:[00SHWHITA] SW"
PUT  1,COPY
CLOSE  1
AT  105
SIZE  2
ITALICS -20
WRITE  WORKING...
ITALICS  0
AT  505
SIZE  2
WRITE  ONCE YOU LOG OFF, YOU CAN
       PICK UP YOUR PRINTOUT IN RB134.
DO  LIB$SPAWN("@SYSLOGIN:copy")
DO  LIB$SPAWN("P_RB sys$login:GUIDE.LIS")
ERASE

ENDLESSON