

Appendices

Appendix A Consent Forms (IRB)

Informed Consent

Project Title: A Case Study in Distance Education: Herbaceous Plants

Principal Investigators: Billy Ray Wu-Rorrer, Masters Candidate, Career and Technical Education; Dr. John Hillison, Professor, Agricultural and Extension Education

1. I hereby agree to participate in the project known as *A Field Study in Distance Education: Herbaceous Plants*. I understand that my participation is voluntary, and I will be asked about my experiences related to questions on the herbaceous plants course curriculum.
2. I understand that I will be asked to participate in a minimum of ten pretest-posttest surveys using the Linkert-Scale, which will take no longer than fifteen minutes for each survey.
3. I understand that I can withdraw from the project at any time without penalty of any kind. In the event that I withdraw from the project, any data collected will be either given to me or destroyed.
4. I understand that I will receive no compensation for my participation in this project, though I will be given a copy of the analysis for my own record.
5. I understand that there are no known risks to participating in this. I also understand that the benefits of this project are great, as my experiences may help inform the profession to improve the laboratory facility to increase education effectiveness.
6. I understand that all questionnaires will be administered through email and I will remain anonymous in any information pertaining to the study.
7. This project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University, by the Department of Teaching and Learning.
8. If I feel I have not been treated according to the descriptions in this form, or that my rights as a participant in the research have been violated during the course of this project, I know I can contact Dr. David Moore, Chair, IRB, Research Division, Virginia Tech, or Billy Ray Wu-Rorrer, Principal Investigator, Career and Technical Education, Virginia Tech at the phone numbers listed below.
9. I voluntarily agree to participate in this study according to the terms outlined above. I have read and understood the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

Signature _____

Date _____

Should I have any questions about the research project or procedure, I may contact:

Billy Ray Wu-Rorrer
Principal Investigator
(703) 734-6005

Dr. John Hillison
Advisor, Committee Chair
(540) 231-8187

Dr. David Moore
Chair, IRB
(540) 231-4991

PARTICIPANTS WILL BE GIVEN A COPY OR DUPLICATE ORIGINAL OF THIS CONSENT FORM

(Please Return This Copy)

**Protocol to Accompany Institutional Review Board
Request for Exemption
Virginia Polytechnic Institute and State University**

Project Title: A Case Study in Distance Education: Herbaceous Plants

Principal Investigators: Billy Ray Wu-Rorrer, Masters Candidate, Career and Technical Education; Dr. John Hillison, Professor, Agricultural and Extension Education

Justification of Project

Distance Education is instructional delivery that does not limit a student to be physically present in the same location as the instructor. The term *distance* does not necessarily mean a long distance. A distance learner may be located across campus, across the state, or even on the other side of the world. Historically, Distance Education has meant correspondence study. Today, audio, video, and computer technologies are common delivery methods. The first distance education in the United States was offered in 1728 when an ad in a Boston paper offered learning by mail. Distance Education is not simply the addition of technology to instruction; instead, it uses technology to make possible new approaches to the teaching / learning process. (Pennsylvania State Department of Distance Education, Office of Distance Education, State College, Pennsylvania)

According to the Department of Education, as of fall 1999, distance education courses were offered at 90 % of colleges and universities that had enrollments of more than 10,000 students and at 85 % of institutions with enrollments of 3,000 to 10,000. Today, online instruction, two-way interactive video, and one-way prerecorded video are the most popular instructional technologies in distance education. For the purpose of this study, the main method of delivery will be online, asynchronous instruction.

This pilot study examines uses of current techniques in distance delivered education courses that can assist in the development of an Internet-based course that is traditionally reserved only for laboratory-based instruction. The objective of this study is to develop thoughts on improving future courses and to identify which current techniques used in the course are effectively communicating the goals of the course.

Procedures

The format of the survey for the growth in each student was a Likert-type scale. In each lesson, students were asked to complete a pretest inventory prior to completing any research, papers or evaluations for that lesson. The inventory questions asked students of their current knowledge of a given subject in that lesson. These subjects mirrored the objectives for each lesson.

After successful completion of each lesson, the students will be asked to complete the posttest inventory (same inventory questions as pretests) to determine student's perceived overall growth in a given topic area.

Risks and Benefits

There are no risks to the panel members to conduct the study.

The findings of this research will aid school administrators, career and technical directors, and continuing education instructors in providing essential facilities for implementing a relevant horticultural online curriculum.

Confidentiality/Anonymity

Only the investigator and advisor will have access to the data. At no time will panel members be able to identify other members of the panel. All efforts will be made to ensure anonymity of the participants. Written responses or justifications will not be accompanied with names of affiliations to institutions. Reporting of data will be based on statistical analysis of the whole panel. Personal information such as names and affiliations to institutions will not be published. All data and information pertaining to the study will be filed in my office.

Biographical Sketch

The principle investigator of the project is:

Billy Ray Wu-Rorrer

Master's Candidate

Department of Career and Technical Education

College of Human Resources and Education

Billy Ray Wu-Rorrer is a graduate student of Virginia Tech in the department of Career and Technical Education, specializing in Agricultural and Extension Education. The George Washington University's Landscape Design Program has currently employed me as instructor for five years, with concentration in Herbaceous and Woody Landscape Plants.

Prior to my decision of obtaining my Master's degree, the Loudoun County School Board employed me as an educator in the Agricultural Education department. During my years of teaching, I taught classes at the high school level. These classes were primarily hands-on courses with emphasis on learning material in the laboratory (greenhouse and outdoor facilities) setting. This background allows me to be very familiar with the agriculture education facility and the knowledge needed to research this area of education.

The faculty member guiding the research process is:

Dr. John Hillison

Professor

Department of Agricultural and Extension

College of Agriculture and Life Sciences

John Hillison is currently the department head of the Department of Agricultural and Extension Education and will be following each step of the proposed study. Dr. Hillison teaches courses on Foundations of Agricultural and Extension, Youth Management, Advanced Agricultural Topics, and supervises student teachers. His research specialty is history of Agricultural Education, FFA, and Cooperative Extension. He also coordinates the Virginia FFA State CDE's. He received his bachelor's and master's from the University of Illinois and his Ph.D. from the Ohio State University. He has chaired over 125 master's degree completions and supervised over 18 doctoral dissertations.

HERBACEOUS PLANTS (SUMMER)

INSTRUCTOR INFORMATION:

Mr. B. Ray Wu-Rorrer
(703) 734-6005 (Home)
(703) 927-7804 (Cell)
wurorrer@vt.edu

CURRICULUM MATERIALS:

Note: None of these are required, just supplemental!

Armitage's Garden Perennials by Allan M. Armitage. 2000. Timber Press. Great photos, enjoyable conversational-style text. \$60

Armitage's Manual of Annuals, Biennials, and Half-Hardy Perennials. Allan Armitage, 2001. Timber Press. Comprehensive guide includes tons of the newest plant material! \$40

CD-ROM :**Horticopia Edition II: Perennials and Annuals** is an interactive multi-media reference. Past students report this as "very helpful". You may purchase a copy for your own use for \$60 (½ list price). Contact Horticopia directly and they will ship it immediately (1-800-560-6186). (minimum computer requirements include Win 95 or better, 32 MB RAM min. and at least 12 MB available disk space.)

COURSE DESCRIPTION:

This course provides an introduction to annuals, biannuals, perennials, and bulbs. This course is a collection of resources categorized by seasonal interests and uses.

Upon completion of this course you should be able to:

- Understand the specific needs of annuals, perennials, and bulbs.
- Cultivate healthy gardens by properly sowing, handling, and propagating plants.
- Utilize each month of the year to foster attractive, blooming flowers.
- Creatively design flower beds using color, a variety of gardening techniques, and proper care for specific plant needs.

GRADING:

Plant Identification Notebook	150
Quizzes	300
Midterm	150
Final	200
Papers	200
TOTAL	1000

Plant Identification Notebook**150 Points**

(Description available under course documents section)

Quizzes**300 Points**

(5 Total x 60 pts. Each)

EVERYTHING IS CUMULATIVE!!! Five quizzes will be given during this course. During each quiz, you will be given ten questions that include four questions from the information from lectures and six questions that are plant identification. Each week you will be responsible for learning 12-18 new plants for that module. Plant identification pictures may include a stem, leaf, or the whole specimen.

Midterm Exam (See schedule for dates of availability)**150 Points**

Exam will consist of three parts. The first section will be five true / false questions @ 2pts. each (10 pts.). The second section will be ten matching questions @ 4 pts. each (40 pts.). The third section will have fifteen multiple-choice questions @ 4 pts. each (100 pts.). Questions will come straight from class lectures, notes, and handouts. Answers can *only* come from information covered in the lectures given and handouts up to the end of the class in which the exam is given out. If you feel that something is not covered, please contact me as soon as possible. This exam is open notes and you can use any resource necessary to find out the information with the exception of fellow students, sorry. **There is a sixty minute time limit on this exam.**

Final Exam (See schedule for dates of availability)**200 Points**

Exam will consist of three parts. The first section will be five true / false questions @ 2 pts. each (10 pts.). The second section will be ten matching questions @ 4 pts. each (40 pts.). The third section will have twenty multiple-choice questions @ 5 pts. each (100 pts.). Questions will come straight from class lectures, notes, and handouts. Answers can *only* come from information covered in the lectures given and handouts up to the end of the class in which the exam is given out. If you feel that something is not covered, please contact me as soon as possible. This exam is open notes and you can use any resource necessary to find out the information with the exception of fellow students, sorry. **There is a ninety minute time limit on this exam.**

Papers**200 Points**

(Description available under course documents section)

(4 Total x 50 pts. Each)

You will be asked to obtain additional information on a given subject that is relevant to class but may not be discussed during lectures. After collecting this information, you will turn your information in via the digital dropbox. Unless noted on your paper (Do Not Duplicate / Use), I would like to use some of your examples for future classes to see. Note: Please follow outlines for each paper.

Appendix C Schedule

Class Outline (Summer)

Class #	Date	Topics Include	Assignment Due
1	June 4	Introductions, Plant Morphology, Syllabus, Nomenclature	Quiz # 1
2	June 11	Hostas	Quiz # 2
3	June 18	Daylilies	Paper # 1 Quiz # 3
4	June 25	Growing & Maintaining Herbaceous Plants	Paper # 2 Midterm
5	July 2	Production of Herbaceous Plants	Paper # 3 Quiz # 4
6	July 9	Annuals	Paper # 4 Quiz # 5
7	July 16	Annuals	
8	July 23	Monthly Gardening Tips (May – August)	Final

Appendix D Logging Into Blackboard

DIRECTIONS FOR ACCESSING BLACKBOARD

- 1) Log onto www.gwu.edu
- 2) Go to the TEACHING section and click onto BLACKBOARD. Click onto Login. This will bring you to the page with the sign-in. Now please follow the directions very closely from here.
- 3) A. If you have a GWMail account, enter the email address and password.
Go to Direction # 4

B. If you do not have a GWMail account, click onto the link that says to create an account. Once there, go to the STUDENTS section and click onto GWMail (student). Follow the directions very closely.
Hints: 1) The pin # is only six digits. 2) The best email to remember is your first initial and last name (this also helps me to id you when you send me an email).

NOTE: It takes overnight for you to be able to access Blackboard once you have an email account. (It gets loaded into Banner overnight). Please do not panic when you try to log onto to Blackboard right after you have set up an email. You will not be able to. Sorry. After Banner has uploaded your information, you will be able to go back to and complete steps 1, 2, and 3A.

- 4) This will bring you to the Blackboard website were you should see all of the classes you are enrolled in, not just the Herb. Plants Class. Click on the Herbaceous Plants Class Link.
- 5) Read the announcements section for further instructions.
 - Read the **Announcements** Section (Please complete the tutorial(s) if this is your first time using Blackboard).
 - Go to the **Course Documents** Section. Download the following documents
 - Complete the Surveys found under the **Testing Section**. You are not graded on these assessments! The information is used for research purposes. However, you can receive a point on your final exam grade for each survey completed. There will be a total of twenty surveys conducted during the session. These surveys can be completed at any time once they become available for viewing.
 - All of the quizzes are available after Friday, June 4 at 12:05AM. You can complete these at your own pace but do not wait until the last minute.
 - Go to the Discussion Board Section. Click on Add New Thread. Then complete an introduction of yourself by telling us your name, where you live, why you signed up for this course, your background, reservations you have about taking an online course, or any other important information.
 - Send everyone in the course an email using the Communications link and send to all users. Tell us about yourself!
 - Remember, the papers need to be emailed to me as well as sent through the digital drop box.

Appendix E Plant Identification Notebook

		POINTS	COMMENTS
ORGANIZATIONAL INFORMATION		____ / 10	
	COPY OF MATRIX OUTLINE		
	TABLE OF CONTENTS		
	NAME		
	CLASS INFORMATION		
CULTURAL INFORMATION		____ / 30	
	BOTANICAL NAME		
	COMMON NAME		
	ZONES OF HARDINESS		
	HEIGHT & WIDTH		
	LEAF ARRANGEMENT		
	FORM / SHAPE		
	LEAF COLOR		
	SPECIAL ATTRIBUTES		
PERSONAL INFORMATION		____ / 20	
	COMMON TO YOUR AREA		
	HAVE YOU USED THIS PLANT?		
	WHY WOULD USE / NOT USE THIS PLANT?		
	WHERE CAN YOU FIND THIS PLANT? (WHOLESALE AND RETAIL)		
	HOW DO YOU PERSONALLY IDENTIFY THIS PLANT?		
	WHAT ARE YOUR PERSONAL THOUGHTS ABOUT THIS PLANT?		
PICTURES		____ / 20	
	FULL VIEW OF PLANT SHOWING FORM		
	CLOSE UP OF FRUIT / FLOWER/ LEAVES		
PROFESSIONALISM		____ / 20	
	CORRECT SPELLING & GRAMMAR		
	ORGANIZED NICELY		
	UNIQUENESS		

NAME _____ CLASS _____ SESSION _____

Appendix F Plant Lists

Celosia argentea (Crested Series)	Celosia (Crested)	1	AN	SU	http://plantsdatabase.com/go/212/index.html
Celosia argentea (Plume Series)	Celosia (Plume)	1	AN	SU	http://plantsdatabase.com/go/56522/index.html
Helianthus annuus	Sunflower	1	AN	SU	http://plantsdatabase.com/go/223/index.html
Hosta 'Guacamole'	Hosta	1	PR	SU	http://plantsdatabase.com/go/2908/index.html
Hosta 'Aphrodite'	Hosta	1	PR	SU	http://plantsdatabase.com/go/3421/index.html
Hosta 'Aureomarginata'	Hosta	1	PR	SU	http://plantsdatabase.com/go/2915/index.html
Hosta 'Elegans'	Hosta	1	PR	SU	http://plantsdatabase.com/go/2933/index.html
Hosta 'Frances Williams'	Hosta	1	PR	SU	http://plantsdatabase.com/go/3149/index.html
Hosta 'Gold Standard'	Hosta	1	PR	SU	http://plantsdatabase.com/go/3158/index.html
Hosta 'Golden Tiara'	Hosta	1	PR	SU	http://plantsdatabase.com/go/2942/index.html
Hosta 'Halcyon'	Hosta	1	PR	SU	http://plantsdatabase.com/go/2949/index.html
Hosta 'Patriot'	Hosta	1	PR	SU	http://plantsdatabase.com/go/3228/index.html
Hosta 'Sum & Substance'	Hosta	1	PR	SU	http://plantsdatabase.com/go/364/index.html
Salvia splendens	Scarlet Salvia	1	AN	SU	http://plantsdatabase.com/go/243/index.html
Tagetes sp.	Marigold	1	AN	SU	http://plantsdatabase.com/go/172/index.html
Calendula officinalis	Pot Marigold	2	AN	SU	http://plantsdatabase.com/go/211/index.html
Gerbear jamesonii	Gerbera Daisy	2	AN	SU	http://plantsdatabase.com/go/892/index.html
Hemerocallis 'Along the Way'	Daylily	2	PR	SU	http://plantsdatabase.com/go/7055/index.html
Hemerocallis 'Bonanza'	Daylily	2	PR	SU	http://plantsdatabase.com/go/12893/index.html
Hemerocallis 'Happy Returns'	Daylily	2	PR	SU	http://plantsdatabase.com/go/27473/index.html
Hemerocallis 'Hyperion'	Daylily	2	PR	SU	http://plantsdatabase.com/go/26753/index.html
Hemerocallis 'Kwanso'	Daylily	2	PR	SU	http://plantsdatabase.com/go/40824/index.html
Hemerocallis 'Little Grapette'	Daylily	2	PR	SU	http://plantsdatabase.com/go/24133/
Hemerocallis 'Myrt'	Daylily	2	PR	SU	
Hemerocallis 'Pardon Me'	Daylily	2	PR	SU	http://plantsdatabase.com/go/15387/index.html
Hemerocallis 'Ruffled Apricot'	Daylily	2	PR	SU	http://plantsdatabase.com/go/7612/index.html
Hemerocallis 'Stella D'Ora'	Daylily	2	PR	SU	http://plantsdatabase.com/go/2653/index.html
Impatiens sp.	Impatiens	2	AN	SU	http://plantsdatabase.com/go/2301/index.html
Myosotis sylvatica	Forget Me Not	2	AN	SU	http://plantsdatabase.com/go/233/index.html
Tropaeolum majus	Nasturtium	2	AN	SU	http://plantsdatabase.com/go/703/index.html
Achillea filipendulina	Yarrow	3	PR	SU	http://plantsdatabase.com/go/59/index.html
Alchemilla mollis	Lady's Mantle	3	PR	SU	http://plantsdatabase.com/go/179/index.html
Asclepias tuberosa	Butterfly Weed	3	PR	SU	http://plantsdatabase.com/go/179/index.html
Campanula medium 'Blue Champion'	Canterbury Bells	3	PR	SU	http://plantsdatabase.com/go/38/index.html
Clematis x jackmanii	Clematis	3	PR	SU	http://plantsdatabase.com/go/2162/index.html
Digitalis purpurea	Foxglove	3	PR	SU	http://plantsdatabase.com/go/743/index.html
Iris (Dwarf)	Iris	3	PR	SU	http://plantsdatabase.com/go/2732/index.html
Iris (German Bearded)	Iris	3	PR	SU	http://plantsdatabase.com/go/36534/index.html
Iris (Japanese)	Iris	3	PR	SU	http://plantsdatabase.com/go/996/index.html
Iris (Louisiana)	Iris	3	PR	SU	http://plantsdatabase.com/go/33053/index.html
Iris (Siberian)	Iris	3	PR	SU	http://plantsdatabase.com/go/880/index.html
Ligularia stenocephala 'The Rocket'	The Rocket	3	PR	SU	http://plantsdatabase.com/go/51577/index.html
Lupinus polyphyllus	Lupine	3	PR	SU	http://plantsdatabase.com/go/512/index.html
Penstomen sp.	Beardtongue	3	PR	SU	http://plantsdatabase.com/go/852/index.html
Platycodon grandiflorus	Ballon Flower	3	PR	SU	http://plantsdatabase.com/go/72/index.html
Asparagus densiflorus	Asparagus Fern	4	AN	SU	http://plantsdatabase.com/go/1850/index.html

<i>Evolvulus glomeratus</i>	Blue Daze	4	AN	SU	http://plantsdatabase.com/go/194/index.html
<i>Helichrysum petiolare</i>	Licorice Plant	4	AN	SU	http://plantsdatabase.com/go/54990/index.html
<i>Heliotropium arborescens</i>	Heliotrope	4	AN	SU	http://plantsdatabase.com/go/224/index.html
<i>Melampodium 'Gold Medallion'</i>	Gold Medallion Flower	4	AN	SU	http://plantsdatabase.com/go/224/index.html
<i>Rosa (Floribunda/Grandiflora)</i>	Rose	4	PR	SU	
<i>Rosa (Hybrid Teas)_</i>	Rose	4	PR	SU	
<i>Rosa (Minature)</i>	Rose	4	PR	SU	
<i>Rosa (Rugosa)</i>	Rose	4	PR	SU	
<i>Rosa (Shrub)</i>	Rose	4	PR	SU	
<i>Sutera cordata</i>	Bacopa	4	AN	SU	http://plantsdatabase.com/go/1924/index.html
<i>Ageratum houstonianum</i>	Ageratum	5	AN	SU	http://plantsdatabase.com/go/256/index.html
<i>Centaurea cyanus</i>	Bachelor's Button	5	AN	SU	http://plantsdatabase.com/go/186/index.html
<i>Cleome hassleriana</i>	Cleome	5	AN	SU	http://plantsdatabase.com/go/6/index.html
<i>Cosmos bipinnatus</i>	Cosmos	5	AN	SU	http://plantsdatabase.com/go/28/index.html
<i>Delphinium elatum</i>	Larkspur	5	AN	SU	http://plantsdatabase.com/go/189/index.html
<i>Hypoestes phyllostachya</i>	Polka Dot Plant	5	AN	SU	http://plantsdatabase.com/go/752/index.html
<i>Ipomoea batatas</i>	Sweet Potato Vine	5	AN	SU	http://plantsdatabase.com/go/53067/index.html
<i>Lablab purpureus</i>	Purple Hyacinth Bean	5	AN	SU	http://plantsdatabase.com/go/890/index.html
<i>Lobularia maritima</i>	Sweet Alyssum	5	AN	SU	http://plantsdatabase.com/go/230/index.html
<i>Mirabilis jalapa</i>	Four O'Clocks	5	AN	SU	http://plantsdatabase.com/go/92/index.html
<i>Nicotiana glauca</i>	Flowering Tobacco	5	AN	SU	http://plantsdatabase.com/go/771/index.html
<i>Thunbergia alata</i>	Black-eyed Susan Vine	5	AN	SU	http://plantsdatabase.com/go/248/index.html
<i>Zinnia elegans</i>	Zinnia	5	AN	SU	http://plantsdatabase.com/go/143/index.html
<i>Euphorbia marginata</i>	Snow on the Mountain	6	AN	SU	http://plantsdatabase.com/go/221/index.html
<i>Geranium sp.</i>	Geranium	6	AN	SU	http://plantsdatabase.com/go/154/index.html
<i>Impatiens hawkeri</i>	New Guinea Impatiens	6	AN	SU	http://plantsdatabase.com/go/204/index.html
<i>Limonium latifolium</i>	Statice	6	AN	SU	http://plantsdatabase.com/go/903/index.html
<i>Mandevilla x amoena 'Alice du Pont'</i>	Mandevilla	6	AN	SU	http://plantsdatabase.com/go/48935/index.html
<i>Moluccella laevis</i>	Bells of Ireland	6	AN	SU	http://plantsdatabase.com/go/84/index.html
<i>Papaver orientale</i>	Oriental Poppy	6	AN	SU	http://plantsdatabase.com/go/633/index.html
<i>Bignonia capreolata</i>	Crossvine	7	NV	SU	http://plantsdatabase.com/go/1789/index.html
<i>Chrysogonum virginianum</i>	Green & Gold	7	NV	SU	http://plantsdatabase.com/go/574/index.html
<i>Echinacea purpurea</i>	Purple Cone Flower	7	NV	SU	http://plantsdatabase.com/go/26/index.html
<i>Monarda didyma</i>	Bee Balm	7	NV	SU	http://plantsdatabase.com/go/302/index.html
<i>Polygonatum odoratum</i>	Solomon's Seal	7	NV	SU	http://plantsdatabase.com/go/393/index.html

Appendix G Outline of Research Papers

Papers Summer

You will be asked to obtain additional information on a given subject that is relevant to class but may not be discussed during lectures. After collecting this information, you will turn your information in via the digital dropbox. Unless noted on your paper (Do Not Duplicate / Use), I would like to use some of your examples for future classes to see. Note: Please follow outlines for each paper. Each paper should be 1-2 pages in length with at least three sources of information.

Paper Topics Include:

1) Hostas

2) Daylilies

3) Growing & Maintaining Roses

4) Production of Herbaceous Plants

***Paper # 1
Summer***

Topic: Hostas

- What are the different classes of Hostas?
- Describe the different classes of Hostas.
- Find a Hosta cultivar that is not on your list and research it's development / history.
- Sources of Hostas (Retail & Wholesale).
- Web sites with information on Hostas.

Paper # 2
Summer

Topic: Daylilies

- What are the different classes of Daylilies?
- Describe the different classes of Daylilies.
- Find a Daylily cultivar that is not on your list and research it's development / history.
- Sources of Daylilies (Retail & Wholesale).
- Web sites with information on Daylilies.

Paper # 3
Summer

Topic: Growing & Maintaining Roses

- Name five types of roses found at a local garden center.
- What are five common pest problems and plant disorders.
- How are roses sold for the landscape?
- List five supplier of roses in the United States.
- Web sites with information on pest problems.

Paper # 4
Summer

Topic: Production

- What types of greenhouse structures are used in the production of herbaceous plants?
- What types of equipment are used in the production of herbaceous plants?
- What types of soil media are used for herbaceous plants?
- What types of fertilizers are used in the production of herbaceous plants?
- List five wholesale growers of herbaceous plants within 50 miles of your home.

Appendix H Surveys

Outline of Surveys

- 1 Intro Survey
- 2 Pretest - Student Comfort Level With Technology
- 3 Pretest - Lesson 1
- 4 Pretest - Lesson 2
- 5 Pretest - Lesson 3
- 6 Pretest - Lesson 4
- 7 Pretest - Lesson 5
- 8 Pretest - Lesson 6
- 9 Pretest - Lesson 7
- 10 Pretest - Lesson 8
- 11 Posttest - Student Comfort Level With Technology
- 12 Posttest - Lesson 1
- 13 Posttest - Lesson 2
- 14 Posttest - Lesson 3
- 15 Posttest - Lesson 4
- 16 Posttest - Lesson 5
- 17 Posttest - Lesson 6
- 18 Posttest - Lesson 7
- 19 Posttest - Lesson 8
- 20 Course Evaluation

Introduction Survey

- 1) *Age Group*
 <25 26-35 36-45 46-55 56-65 66+
- 2) *Gender*
 Male Female
- 3) *Educational Background*
 High School Diploma or GED
 Associate's Degree
 Bachelor's Degree
 Master's Degree
 Doctoral Degree

Questions # 4-9 Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

- 4) *Registration Process*
 1 2 3 4 5
- 5) *Catalog Description of the Course*
 1 2 3 4 5
- 6) *Advance Information on the Course*
 1 2 3 4 5
- 7) *Accessing Blackboard and GWMail*
 1 2 3 4 5
- 8) *Tutorial #1 GWU*
 1 2 3 4 5
- 9) *Tutorial # 2 VT*
 1 2 3 4 5
- 10) *Please List Any Problems That You Have Encountered:*

Pretest / Posttest– Lesson 1

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing the importance of the taxonomic systems.

1 2 3 4 5

Describing the differences between formal and informal classification systems.

1 2 3 4 5

Describing the binomial system for naming plants.

1 2 3 4 5

Listing differences between monocots and dicots

1 2 3 4 5

Describing angiosperms and gymnosperms

1 2 3 4 5

Explaining how geography influences the types of plants in an area.

1 2 3 4 5

Naming the structural parts of a plant.

1 2 3 4 5

Describing the differences between the various roots, stems, flowers, and leaves.

1 2 3 4 5

Naming three classifications of herbaceous plants.

1 2 3 4 5

Pretest / Posttest– Lesson 2

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing the cultural requirements of Hosta.

1 2 3 4 5

Describing the differences between the various classes of Hosta.

1 2 3 4 5

Naming at least five common cultivars of Hosta.

1 2 3 4 5

Identifying the feeding habits of deer.

1 2 3 4 5

Understanding the principles of wildlife damage management.

1 2 3 4 5

Naming at least five plants in each of the various levels of wildlife damage.

1 2 3 4 5

Pretest / Posttest– Lesson 3

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing the cultural requirements of Daylilies.

1 2 3 4 5

Describing differences between the various classes of Daylilies.

1 2 3 4 5

Naming at least five common cultivars of Daylilies.

1 2 3 4 5

Identifying sources of Daylilies.

1 2 3 4 5

Explaining the breeding process for Daylilies.

1 2 3 4 5

Explaining why there is a need for breeding of Daylilies.

1 2 3 4 5

Describing the difference between a Daylily species and a hybrid.

1 2 3 4 5

Pretest / Posttest– Lesson 4

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing the cultural requirements of annuals.

1 2 3 4 5

Discussing the site requirements of annuals

1 2 3 4 5

Discussing the maintenance requirements of annuals.

1 2 3 4 5

Describing the life cycle of an annual.

1 2 3 4 5

Describing the plant hardiness of most annuals in the Mid-Atlantic region.

1 2 3 4 5

Discussing the cultural requirements of Roses.

1 2 3 4 5

Describing differences between the various classes of Roses.

1 2 3 4 5

Naming at least five common cultivars of Roses.

1 2 3 4 5

Discussing the maintenance requirements of Roses.

1 2 3 4 5

Pretest / Posttest– Lesson 5

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing the cultural requirements of perennials.

1 2 3 4 5

Discussing the site requirements of perennials

1 2 3 4 5

Discussing the maintenance requirements of perennials.

1 2 3 4 5

Describing the life cycle of perennials.

1 2 3 4 5

Describing the plant hardiness of most perennials in the Mid-Atlantic region.

1 2 3 4 5

Discussing the handling procedures of bare root perennials.

1 2 3 4 5

Identifying factors that harm bare root perennials.

1 2 3 4 5

Naming at least five perennials commonly sold as bare root.

1 2 3 4 5

Determining various coverage areas for selected materials.

1 2 3 4 5

Pretest / Posttest– Lesson 6

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing new trends in landscaping that use annual plants.

1 2 3 4 5

Naming at least five annuals used for hot, dry summers.

1 2 3 4 5

Explaining the importance of using drought, heat tolerant annuals.

1 2 3 4 5

Describing plantings used for the various compass directions (North, South, East, West)

1 2 3 4 5

Pretest / Posttest– Lesson 7

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing the importance of amending soils.

1 2 3 4 5

Describing differences between clay, loamy, and sandy soils.

1 2 3 4 5

Naming at least five soil amendments.

1 2 3 4 5

Explaining why it is important to test soil on a regular basis.

1 2 3 4 5

Explaining how to take a soil sample

1 2 3 4 5

Describing how to read/interpret a soil analysis.

1 2 3 4 5

Pretest / Posttest– Lesson 8

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

Topics

Discussing specific techniques that take place during a given month.

1 2 3 4 5

Identifying common trends using herbaceous plants in the landscape.

1 2 3 4 5

Pretest / Posttest– Student Comfort Level With Technology

Please rate your current knowledge of the following topics on a scale of 1 to 5 (1=none, 2=a little, 3=average, 4=more than average, 5=complete understanding)

1) Using the Computer

1 2 3 4 5

2) Sending & Receiving Email

1 2 3 4 5

3) Word Processing & Spreadsheets

1 2 3 4 5

4) Posting & Reading Messages on a Discussion Board

1 2 3 4 5

5) Downloading Files From the Internet

1 2 3 4 5

6) Searching the Internet for Information (Search Engines)

1 2 3 4 5

7) Completing Assessments (surveys, quizzes, and exams) via the Internet

1 2 3 4 5

8) Taking Digital Pictures / Scanning or Copying Images

1 2 3 4 5

Completion Survey

The George Washington University
College of Professional Studies (CPS)

Course Evaluation

Instructor _____
Course Number & Title _____
Semester _____ Date _____

To assist CPS in assessing the effectiveness of its courses in achieving learning objectives, we invite your candid and thoughtful responses to the following questions which reflect some of the ways a teacher may be described. Your responses will be kept completely confidential. Summarized results will be returned to the instructor after course grades have been submitted to the University.

Course instructor:	Strongly Agree				Strongly Disagree
1. Had expert knowledge of the subject and course material	5	4	3	2	1
2. Established clear learning objectives for the course	5	4	3	2	1
3. Lectures were well prepared and organized	5	4	3	2	1
4. Was able to convey course material effectively	5	4	3	2	1
5. Demonstrated concern about whether students were learning	5	4	3	2	1
6. Demonstrated enthusiasm for topic/subject	5	4	3	2	1
7. Designed and used fair grading procedures	5	4	3	2	1
8. Provided adequate and timely feedback on exams/papers/performance	5	4	3	2	1
9. Was accessible outside of class (in-person, by phone or e-mail)	5	4	3	2	1
10. Started and ended class times as scheduled	5	4	3	2	1
11. Used assignments appropriate to the learning objectives of the course	5	4	3	2	1
12. Was careful and precise in answering questions	5	4	3	2	1
13. Created a positive learning environment in the classroom	5	4	3	2	1
14. Encouraged independent thought and class participation	5	4	3	2	1
If applicable:					
15. Textbook(s) complemented course material covered in class	5	4	3	2	1
16. Handouts complemented course material covered in class	5	4	3	2	1

(Please continue on reverse side.)

Overall:

How did this course contribute to your educational goals?

In what ways did this course contribute knowledge and/or skills that you may use in your current work and/or your future career?

We welcome additional comments (for example, feedback on the strengths and weaknesses of the course, etc.)

Appendix I Performance Objectives

Objectives:

- Classify basic plant structures / classification

1) Classify basic plant structures / classification

1) Given ten written statements that include plant structures and classification systems, the student will be able to identify the characteristics of each through their roots, leaves, flowers, and/or stem structures.

Develop a three to five page report two of the four plant structures.

Student Completion: 100%

Average Grade: 50/50

Result: Excellent

1.1 State Importance of Nomenclature

1.1 Given the history and structure of the Linnaean System of Classification, the student will be able to state the importance of nomenclature in the classification of plants, in particular, the specific epithet.

Which of the two levels are used for the binomial classification system?
A. Kingdom & Cultivar
B. Variety & Family
C. Order & Class
D. Genus & Species

Questions Related to 1.1 = 2

**# of Times Correctly Answered:
10/10**

Result: Excellent

1.1.1 Compare and Contrast Various Classification Systems

1.1.1 Given examples of formal and informal classification systems, the student will be able to compare and contrast five classification systems

Which of the following is a form of informal classification?
A. Uses of plants
B. Physiological characteristics
C. Descriptive system
D. All of the above

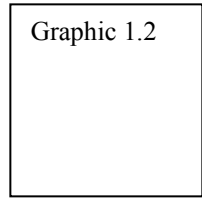
Questions Related to 1.1.1 = 3

**# of Times Correctly Answered:
13/15**

Result: Satisfactory

1.2 List the Plant Anatomy Characteristics

1.2 Given a graphic of margins, venation, and leaf arrangements, the student will be able to list the plant anatomy makeup of ten herbaceous plants.



Match the following name to the structures labeled on graphic 1.2.

- A. Root**
- B. Stem**
- C. Leaf**
- D. Flower**
- E. Soil**

Questions Related to 1.2 = 1

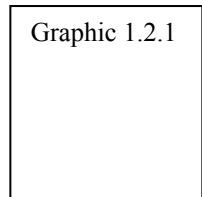
of Times Correctly Answered:

- A. 5/5**
- B. 5/5**
- C. 5/5**
- D. 5/5**
- E. 5/5**

Result: Excellent

1.2.1 Identify Leaves

1.2.1 Given a sample diagram of leaf structures, the student will be able to identify ten herbaceous plants based on their attributes.



Match the following name to the structures labeled on graphic 1.2.1.

- A. Palmate**
- B. Pinnate**
- C. Bipinnate**
- D. Margin**
- E. Shape**
- F. Alternate**
- G. Opposite**
- H. Whorled**
- I. Compound**
- J. Single**

Questions Related to 1.2.1 = 1

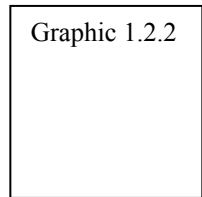
of Times Correctly Answered:

Result: Satisfactory

- A. 5/5
- B. 5/5
- C. 5/5
- D. 4/5
- E. 4/5
- F. 4/5
- G. 5/5
- H. 5/5
- I. 5/5
- J. 5/5

1.2.2 Identify Stems

1.2.2 Given a sample diagram of stem structures, the student will be able to identify ten herbaceous plants based on their attributes.



Match the following name to the structures labeled on graphic 1.2.2.

- A. Bud
- B. Auxiliary Bud
- C. Pith
- D. Water sprouts
- E. Lenticels

Questions Related to 1.2.2 = 1

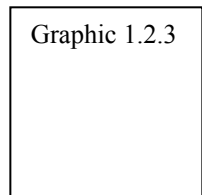
of Times Correctly Answered:

Result: Satisfactory

- A. 5/5
- B. 5/5
- C. 5/5
- D. 5/5
- E. 5/5

1.2.3 Identify Roots

1.2.3 Given a sample diagram of root structures, the student will be able to identify ten herbaceous plants based on their attributes.



Match the following name to the structures labeled on graphic 1.2.3.

- A. Aerial
- B. Tap
- C. Fibrous
- D. Layering
- E. Bulb
- F. Corm
- G. Tuber
- H. Suckers

Questions Related to 1.2.3 = 1

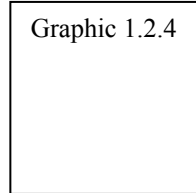
of Times Correctly Answered:

- A. 5/5**
- B. 5/5**
- C. 5/5**
- D. 4/5**
- E. 4/5**
- F. 4/5**
- G. 4/5**
- H. 4/5**

Result: Needs Improvement

1.2.4 Identify Flowers

1.2.4 Given a sample diagram of flower structures, the student will be able to identify ten herbaceous plants based on their attributes.



Match the following name to the structures labeled on graphic 1.2.4.

- A. Stamen**
- B. Pistol**
- C. Petal**
- D. Sepal**
- E. Stigma**
- F. Anther**
- G. Filament**
- H. Ovary**
- I. Bract**
- J. Style**

Questions Related to 1.2.4 = 2

of Times Correctly Answered:

- A. 9/10**
- B. 10/10**
- C. 10/10**
- D. 8/10**
- E. 10/10**
- F. 10/10**
- G. 10/10**
- H. 10/10**
- I. 9/10**
- J. 9/10**

Result: Satisfactory

Identify physical characteristics of herbaceous plants

2) Identify physical characteristics of herbaceous plants

2) In your own words, list environmental factors affecting the overall health of ten selected herbaceous plants.

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____, are all factors effecting the overall health of herbaceous plants

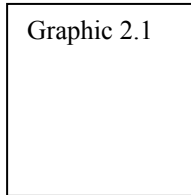
Student Participation =100%

Student # 1 = 4/4
Student # 2 = 3/4
Student # 3 = 4/4
Student # 4 = 4/4
Student # 5 = 4/4

Result: Satisfactory

2.1 Classify Soil

2.1 Given a soil structure map, the student will be able to classify (sort) soil horizons into five categories; o horizon, a horizon, b horizon, c horizon or rock.



Match the following name to the structures labeled on graphic 2.1.

- A. O Horizon
- B. A Horizon
- C. B Horizon
- D. C Horizon
- E. Bedrock

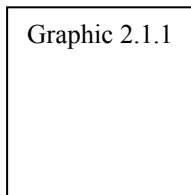
Questions Related to 2.1 = 1

of Times Correctly Answered:
A. 5/5
B. 5/5
C. 5/5
D. 4/5
E. 4/5

Result: Satisfactory

2.1.1 Classify Structure

2.1.1. Given a soil makeup triangle, the student will be able to classify (sort) soil structure types into three categories; sandy, clayey or loamy.



Match the following name to the points labeled on graphic 2.1.1

- A. 60 % Clay, 20% Silt, 20% Sand
- B. 20 % Clay, 60% Silt, 20% Sand
- C. 33 % Clay, 34% Silt, 33% Sand
- D. 25 % Clay, 25% Silt, 50%

Sand
E. 20 % Clay, 20% Silt, 60%
Sand

Questions Related to 2.1.1 = 2

of Times Correctly
Answered:
A. 8/10
B. 9/10
C. 10/10
D. 10/10
E. 6/10

2.2 Measuring Temperature

2.2 Given a thermometer and a controlled environment, the student will be able to perform an exact measurement of the temperature of a facility within a 2 degree variance.

Given ten controlled samples environments (A-J), the student will be able to perform an exact measurement of the temperature of a facility within a 2 degree variance.

Student Participation = 100%

All students were able to complete this assignment. It was not possible for the instructor to evaluate whether the student samples were correct but the instructor believed that the students' reports showed that the students knew how to accurately conduct such an experiment.

Result: Satisfactory

2.3 List Plant Light Requirements

2.3 Given a spectrometer, the student will be able to perform light measurement tests on three areas of a classroom.

Given three areas of a classroom (A-C), you will need to determine how many foot-candles of light are in a given area.

Student Participation = 80%

In this activity, one of the students was not able to pick up a spectrometer provided by the instructor due to lack of time and planning on the student's part. In the future, this activity should be included in one of the on-site visits, not on the students own time.

Result: Satisfactory

2.3.1 Identify Stages of Photosynthesis

2.3.1 Given a detailed graphic of photosynthesis, the student will be able to identify three stages of the process.

From the handout provided to you, please identify the three stages of the photosynthesis process.

Student Participation = 100%

All students answered this question. It was found that many students know the various stages of photosynthesis and when they take place, but it is believed that many of the students did not truly understand the importance of photosynthesis in plants.

Result: Satisfactory

2.3.2 List Affects of Photoperiods on Plants

2.3.2 Given a list of plants that are affected by photoperiods, the student will be able to choose ten flowering herbaceous plants that are affected by the amounts of daylight and darkness.

From the list provided to you in your handout, please chose ten plants that are affected by photoperiods.

Student Participation = 100%

All students provided correct answers with the appropriate plants in this assignment. In the future, it may be necessary to have the students to find their own example of how photoperiods affect a plant.

Result: Satisfactory

List cultural requirements of herbaceous plants

3) List cultural requirements of herbaceous plants

3) Given proper background information, the student will be able to list cultural requirements of ten herbaceous plants.

_____, _____,
_____, _____,
_____, _____, are all
cultural requirements of
herbaceous plants

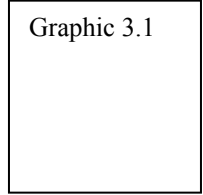
Student Participation = 100%

**Student # 1 = 4/4
Student # 2 = 4/4
Student # 3 = 4/4
Student # 4 = 4/4
Student # 5 = 4/4**

Result: Excellent

3.1 Classify Size

3.1 Given a copy of the ANSI Publication # Z60.1-1996, the student will be able to classify the container sizes of ten herbaceous plants according to the American Standard for Nursery Stock Classification System, preface page ii.



Match the following name to the points labeled on graphic

3.1

- A. 1 Gallon**
- B. 2 Gallon**
- C. 3 Gallon**
- D. 1 Quart**
- E. Flat Tray**

Questions Related to 3.1 = 1

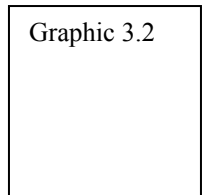
of Times Correctly Answered:

- A. 5/5**
- B. 5/5**
- C. 5/5**
- D. 5/5**
- E. 5/5**

Result: Excellent

3.2 Classify Color

3.2 Given a copy of a color wheel, the student will be able to identify the color of ten herbaceous plants.



Match the following name to the points labeled on graphic

3.2

- A. Red**
- B. Green**
- C. Blue**
- D. Yellow**
- E. Purple**
- F. Chartreuse**
- G. Wine**
- H. Emerald**
- I. Scarlet**
- J. Periwinkle**

Questions Related to 3.2 = 1

of Times Correctly Answered:

- A. 5/5**
- B. 5/5**
- C. 5/5**
- D. 4/5**
- E. 5/5**
- F. 4/5**
- G. 4/5**
- H. 4/5**
- I. 4/5**
- J. 5/5**

Result: Needs Improvement

3.3 Classify Shape / Form

3.3 Given a copy of the ANSI Publication # Z60.1-1996, the student will be able to classify plant shapes / forms of according to the American Standard for Nursery Stock Classification System, preface page ii.

Graphic 3.3

Match the following name to the points labeled on graphic 3.3

- A. Pyramidal**
- B. Rounded**
- C. Columnar**
- D. Prostrate**
- E. Weeping**

Questions Related to 3.3 = 2

of Times Correctly Answered:

- A. 5/5**
- B. 5/5**
- C. 5/5**
- D. 5/5**
- E. 5/5**

Result: Excellent

- Evaluate previous planting design models for accuracy / function ability

4) Evaluate previous planting design models for accuracy / function ability

4) Given ten examples of non-accurate / non-functional landscape designs, the student will be able to contrast previous planting design models by reviewing ten new landscape designs for their accuracy / functional ability.

Which of the following is a form of non-functional design?

- A. Graphic #1
- B. Graphic #2
- C. Graphic #3
- D. Graphic #4

Questions Related to 4 = 1

of Times Correctly

Answered:

- A. 1/1
- B. 1/1
- C. 1/1
- D. 0/1
- E. 1/1

Result: Satisfactory
Note: One student answered incorrectly but provided justification for their answer which they later agreed was incorrect. The instructor felt the student had followed the steps necessary to arrive at the correct answer but just didn't give the correct answer.

4.1 Interpret Landscape Designs

4.1 Given ten herbaceous plants, the student will be able to select (categorize) the plants that are appropriate for a specific landscape design situation.

Graphic 4.1



Match the following name to the points labeled on graphic 4.1

- A. Design #1
- B. Design #2
- C. Design #3
- D. Design #4
- E. Design #5

Questions Related to 4.1 = 2

of Times Correctly

Answered:

10plants x 2 questions x 5 students = 100 answers

- A. 100/100
- B. 98/100
- C. 84/100
- D. 92/100
- E. 100/100

Result: Satisfactory
Note: Design #3 was a very difficult design which was intended to determine the students understanding of basic design principles. Two students that were new to the GW program scored lower on this question.

4.2 Execute Design Principles

4.2 Given the aesthetic qualities of herbaceous plants, the student will be able to execute the elements of design by using ten herbaceous plants for each of the following categories: form, texture, and color.

Design a landscape with a minimum of ten herbaceous plants covered this session.

Student Participation = 100%

All students completed this assignment with positive results. All of the students used plants that were appropriate for the design area provided to them. This was a great exercise to get students using the plants they were learning into a real world situation.

Result: Excellent

4.3 Visualize Plants in Completed Design

4.3 Given commonly used drafting tools, the student will be able to draw herbaceous plants in five completed design projects.

Given five checklists (site analysis's & schematics), you will need to draw herbaceous plants covered this session into five designs.

Student Participation = 100%

These designs were meant to be thumbnail sketches (requiring minimum effort) but many of the student spent three to four hours per design completing an actual design. This was unnecessary and caused one of the students to become very irate at the instructor for requiring so much work. Once the instructor clarified and pointed back to the instructions stating to make thumbnail sketches, the student became less irritated.

Result: Satisfactory

- Design new planting design schemes from information gathered.

5) Design new planting design schemes from information gathered.

5) Given proper background information, the student will be able to apply new planting design schemes to three new designs.

Given five checklists (site analysis's & schematics), draw herbaceous plants covered this session into five new designs schemes.

Student Participation = 100%

This activity was found to be very time consuming and did not cover all of the intended components. Based upon the review of the student's work, it is believed that the students were not provided enough detail in the description of the activity to fully complete it as requested. In the future, another activity should replace this one and should be better written.

Result: Needs Improvement

5.1 Apply Design Principles

5.1 Given the list of design principles, the student will be able to apply concepts from five of the design principles.

Given five checklists (site analysis's & schematics), apply concepts into five designs.

Student Participation = 100%

This activity was found to be above some of the students current knowledge of landscape design. Since this course is open to all students in the GWU program and no prerequisites are in effect, students' cognitive knowledge of landscape design vary drastically. In future courses, this activity will need to be changed to reflect those differences by providing students with additional information about landscape design principles.

Result: Needs Improvement

5.2 Draw Landscape Design Graphics

5.2 Given commonly used the student will be able to draw landscape design graphics of commonly used herbaceous plants in plan, section, elevation, and axonometric.

Given five checklists (site analysis's & schematics), you will need to draw herbaceous plants covered this session into designs with the following views for each plan, section, elevation, and axonometric.

Student Participation = 100%

This activity was found to be very challenging. There was a distinct difference the newer students and the more experienced students work. This was directly attributed to student's previous experiences in landscape design. The newer students found this activity to be both challenging and rewarding because it help to prepare them for future landscape design courses.

Result: Satisfactory

Appendix J Vita

Billy Ray Wu-Rorrer

EDUCATION

Virginia Polytechnic Institute and State University, Blacksburg, VA

Masters of Science: Career and Technical Education, Fall 2004

Educational Courses: Youth Development & Program Management, Research Applications in Agriculture & Extension Education, Community Partnerships and Volunteerism, Foundations of Agriculture & Extension Education, Diverse Populations, Forest Biology & Ecology for Educators, Principles of Instructional Design, Advanced Theories of Instructional Design, Evaluation in Career & Technical Education, Program & Curriculum Design, Education & Work in a Changing Society.

The George Washington University, Washington, DC

Certificate of Completion: Landscape Design, March 2004

Landscape Design Courses: Introduction to Design, Site Analysis, Landscape Graphics, History of Landscape Architecture, Landscape Construction, Site Engineering, Site Design.

Virginia Polytechnic Institute and State University, Blacksburg, VA

Bachelor of Science: Agriculture Education, Minor: Horticulture, December 1999

Horticulture Courses: Herbaceous Plant Materials, Woody Plant Materials, Indoor Plants, Plant Propagation, Landscape Design, Environmental Factors in Horticulture

EXPERIENCE

The George Washington University, Washington, DC

Woody Plants Instructor, September 2000 – present

- Present over 500 plants to adult students in the continuing education division over five sessions per year
- Co-coordinator of the First Annual George Washington University Landscape Design Career Fair
- Educate and advise students in the landscape design industry
- Implemented class web page into the Landscape Design Program

Cakes By Happy Eatery, Centreville, VA

Manager, August 2002 – present

- Manage and train staff of 12+ including bakers, decorators, salespeople, and laborers
- Oversee daily operations of bakery / café
- Inventory and ordering of all supplies
- Develop and maintain commercial accounts in the Northern Virginia area

The United States Department of Agriculture Graduate School, Washington, DC

Introduction to Horticulture Instructor, September 2002 – Fall 2003

- Present adult students with various examples of plant classification, morphology, and propagation
- Educate students about careers in the horticultural industry
- Assist in scheduling students continuing in the Horticulture or Landscape Design Programs.

Loudoun County Public Schools, Leesburg, VA

Monroe Technology Center Horticulture Instructor / FFA Advisor, August 1999 – June 2002

- Educated/advised high school students about the benefits and opportunities available in the horticulture industry
- Actively motivated and recruited students into the horticulture program
- Managed over 3,600 square feet of nursery/greenhouse facilities
- Maintained 10+ acres of landscape around school grounds
- Oversaw plant sales totaling over \$50,000 per school year
- Organized Advisory Council, consisting of members of the business community, parents, and educational representatives

Double R Landscaping & Nursery, Pulaski, VA

Owner, 1994-2000

- Managed weekly maintenance schedule for over 25 clients
- Developed advertising to expand clientele base
- Worked up to 70 hours per week during peak seasons in addition to attending college

Berkeley Tool Inc., Dublin, VA

Warehouse/Grounds Maintenance, 1994-1998

- Stocked, delivered, and shipped construction equipment to local contractors
- Coordinated grounds maintenance (mowing, fertilization, and IPM) into weekly schedule

COMPUTER PROFICIENCY

Windows 2000, Microsoft Office, Netscape Communicator, Visual Landscaping, Landscape Pro

ACTIVITIES AND INTERESTS

- Member, Associated Landscape Contractors of America
- Member, Virginia Turfgrass Council
- Member, Virginia Native Plants Society
- Certified Pesticide Applicator, Virginia Department of Agriculture and Consumer Sciences
- 1996 Recipient of American Degree in Future Farmers of America
- 1996 Delegate to International Green-week Expo in Berlin, Germany
- 1995 Virginia State Future Farmer of America Officer, Appalachian Area Vice-President
- 1995 Virginia 4-H State Ambassador
- 1995 4-H All Star, Pulaski Unit
- 1993 & 1994 Delegate to National Institute on Cooperative Education Conference
- Multi-cultural Experiences: Traveled extensively throughout Europe and Asia