



General Horticulture

21:120:106 (lecture - 3 credits) & 107 (lab - 1 credit)

Subject Syllabus for Lecture plus Laboratory

Spring 2016 - Prof. John H. Crow

The course covers essential information required for a basic understanding of horticulture. Subjects range from those necessary to describe plants (morphology and anatomy), understand elementary soil science, genetics, metabolism, flowers, fruits, reproductive methodologies, biocides, growth substances, light, photoperiodism, and related horticultural subjects matter. The course provides practical experiences from lecture, lab, and field trips. The course also gives students first-hand laboratory experience. Seasonal and weather related topics will be discussed in lecture and lab as opportunities arise during the semester. In many lectures special plants you can easily grow will be highlighted by Prof. Crow.

The class is designed to give the students a practical course in science and has the advantage of being a subject that will be useful in their apartments, homes, offices, and countryside ever after. Students learn factual information along with conceptual material that is more general with respect to biology and science in general. Students will learn how the practices in horticulture are supported by science.

The course also makes connections to art, history, economics, and even politics from time to time. Woven into the the course are references to new world crops, thresholds in science, decoration and beauty, seasonal considerations, and a huge variety of other interesting subjects. The course draws attention to the scientific method and distinctions between data and opinion.

The class will further the students knowledge of science, ability to think critically and evaluate data and ideas, plus confront the students with issues and history related to botany and horticulture that relate to individual and social responsibility. Students will also leave with a much greater understanding of practical horticulture.

Class goals

The first goal is to provide the students with quality information and experiences pertaining to practical horticulture that will be genuinely useful to them in their lives and lead to enjoyment of this great and beautiful subject; next, to expose you to the science in a way that you gain an interest in, and understanding of, important subjects such as geography, soils, physiology, diversity, genetics, and toxic substances to name a few. For example, subjects such a toxic substances and genetics will undoubtedly be relevant to your well being and this course is intended to better prepare you for practical aspects in the lives you will lead. A third goal is to increase awareness of horticulture in art, history, culture, and economics that will carry into the future as well. If successful, students will automatically be better educated citizens and have greater potential to be positive influences on others. Fourth is improved communication skills.

Class Format

The class includes lecture and lab in an integrated format. The lectures are designed to encourage discussion and reaction! At a minimum there will be two extra-class assignments: a term paper (lecture only) and a botanical garden trip that requires a minor report; some short assignments are anticipated as well. Quizzes are given frequently (usually 6 or 7) in lecture and are reviewed immediately in class; lab may also have two unannounced quizzes. The quizzes are used as part of the lecture and laboratory and are not merely an examination tool. There is a midterm and final in laboratory plus a final in lecture. The examinations will address material relative to the class content and goals. All assignments must be completed in accordance with dates set on the syllabus schedule (or as revised in a modified schedule) or a penalty will be assessed. All quizzes and exams are cumulative. There are no make-up quizzes or exams whatsoever, so do not ask.

General information

Lecturer: Prof. Crow

Office: 139 Boyden Hall, 973-383-1315, and off-campus office 908-852-4855 (Susan).

Office hours: Tuesday to Thursday 8:45-9:45 AM and by arrangement by email, or direct contact.

Email: drcrow@verizon.net; all students can expect to be contacted regularly through Blackboard and it will be the student's responsibility to make sure that their Blackboard account is working. Email is the best way to contact me. You must **put the code GHs16 at the beginning of the subject line followed by your last name and then the purpose of the email**; e.g., GHs16 Clinton cigars. If you do not follow this procedure, I may never see your email. No excuses, use the code. Your assignment attachments must match the subject line of the email.

Website: <http://drcrow.org> is the course website. Many materials will be supplied on the web including all the lab protocols (usually at least a week in advance - always bring printed copies to the lab along with unlined white paper for drawings and pencils).

Instructors: Lab section 1 - staff; section 2 - Prof. Crow

Location: Lecture - Hill 107
Laboratory - Boyden Hall Room 125 (**note, no labs the first week of classes!!!**)

Credits: 3 credits for lecture and 1 credit for laboratory; presently the course is as two separate courses, but must be taken concurrently.

Meetings: Lecture meets T & Th from 10:00 to 11:20 AM; you must be on time.
Lab sections 1 meets Tuesdays from 2:30 to 5:30 ; section 2 meets Wednesdays from 10:00 AM to 12:50 PM.

Attendance is required for lectures and laboratories; attendance will be taken and you must be on time. Two missed lectures can be made up without penalty by submitting handwritten notes based upon notes obtained from other students. The notes must be submitted within 2 weeks of an absence to obtain credit. A 5-point penalty will be otherwise be taken from your overall total in the course for missed lectures up to 20 points. A more severe penalty of an additional one-grade reduction will be made for 5 or more lecture absences. Do not leave early without permission of the professor; leaving early will result in a penalty for the day.

Laboratory is also required and up to a one-grade reduction will be made for any laboratory sessions not made up. Missed laboratory sessions may be made up by switching sections during the week you miss a lab with permission of the lab instructor if possible; otherwise, laboratories cannot be made up. It will be your responsibility to work with the lab instructor to determine, on an individual basis, other make-up or partial make-up possibilities. There are no guarantees that you will have a make-up opportunity. A biology laboratory kit (or equivalent) is recommended. You must also bring plain drawing paper to each laboratory along with a #2 pencil. Photographing of experiments, lab materials, and examples will be allowed.

It is not my intention to be punitive, but missing lectures and labs detracts from what you can learn in the class. You need to be there. Points will be lost for missed labs and/or lectures.

Other: A field trip to an approved regional Botanical Garden is required for satisfactory completion of the course (the garden list will be on the web and discussed in class), is part of the lecture-lab requirement, and must be completed and reported as listed on the syllabus calendar.

A brief, illustrated report will be required describing your visit to the garden. You will need to present a summary of your experience and tell me about your favorite part of the garden and why. You must include a photo of yourself in an identifying location within the garden. The report must be presented in Microsoft Word (.doc or .docx) or Apple's Pages at 1.5 spacing in the Times or Times New Roman font. Other forms of presentation will not be accepted. The reports should be submitted via email to Prof. Crow. The field trip and trip report are required to pass the course and a penalty of one-half grade per day past xxxxx will be assessed. The field trip is expected to add to your knowledge of science in general and horticulture specifically. The approved world-class botanical gardens each have extensive collections and demonstrations regarding horticultural practices and the science behind the practices used in horticulture. Each garden

also features significant historical and cultural information that you might use in your report. The trips are always quite enjoyable.

A term paper will also be required for those students taking in order to pass the course. The subject matter will be a plant chosen for each student by Professor Crow. The report must be presented in Microsoft Word (.doc or .docx) or Apple's Pages at 1.5 spacing in the Times or Times New Roman font. Other forms of presentation will not be accepted or marked down considerably. The reports should be submitted via email to Prof. Crow. At least 3 non-web resources and 5 web resources are required as reference materials. Detailed instructions about the format will be made available prior to the assignment. The report is required to pass the course and a penalty of one grade per day on the assignment will be made for late term paper reports. The term paper needs to include a section on the history of the plant, a description of the plant (and varieties), and cultivation practices. The goal of the paper is to provide you with an opportunity to gain knowledge of the subject matter; sort out the most important information and explain the growing practices in scientific terms, and improve your writing skills. Where, and if possible, note the importance of your assignment to historical, ethical, cultural, artistic, or other interesting subjects.

The grade on reports will be based upon the following: subject research or observation quality and completeness, organization, use of references, appropriate use of citations (no plagiarism!), and presentation. For the trip report there need not be any references or citations.

- Misc.: There are no prerequisites for this course. The course serves has served as one of the optional college science requirements for non-majors and is in the works for approval again. Recording of lectures and labs is not allowed.
- Text: Texts are listed along with reading assignments at the end of the syllabus. Expect supplementary readings and assignments along with handouts.
- Grading: Quizzes and Exams: In lecture, approximately 5 to 7 quizzes will be spread across the semester plus a semester final. In laboratory there will be two quizzes, a mid-term exam, and a final practical exam along with 1 or two pop quizzes. All exams and quizzes are all cumulative with respect to content. Do not leave lecture without permission after quizzes are given or you will be counted absent and your quiz will not be graded. If there is a reason you must leave any lecture, notify Prof. Crow in advance of your departure. Of course, valid reasons will be honored. You will not be allowed to take the lecture quizzes or exams if you arrive after 10:05 AM. Professor Crow will go over the quizzes immediately after each quiz is given and you are welcome to take notes; the actual quizzes will not be returned, but you may set an appointment to review again if you so desire.

Lab quizzes and the midterm will be reviewed the week following the quizzes and midterm.

Laboratory grading: laboratory notebooks will be required and your everyday points (15) will be based upon the notebook and participation in each of the labs. 33% of each lab (5 points) will be scored on the instructor's judgment regarding completeness and participation at the end of each lab day. The remaining 70% of the daily lab scores (10 points) will be based upon the quality of your work in lab as reflected in your notebook regarding. An important requirement of the course is the laboratory binder/notebook. Everything you do in laboratory is to be documented in a laboratory binder. The binder will be a collection of all your drawings, answers to questions, details about experiments and lab exercises, and reports. Your original lab work may be rewritten and presented to provide a neat record of your lab experiences; note, you will be required to include your original laboratory notes and work as backup for the finished work. The notebook will be collected approximately halfway through the semester in order to give each student some feedback. At the beginning of the lab final your lab notebook will be collected for final grading. The lab notebooks must be turned in on time or there will be a loss of one-grade for each day late. Do not fall behind with your lab work. Each lab protocol will have questions or exercises to respond to. Make sure you respond completely. Your lab instructor will lead the way in major parts of the protocol during the lab so that you can follow and reproduce the methods and techniques taught. You must participate!

In lab, reports will be a regular part of the lab exercises that count into the weekly grading (assume 3 or 4 such reports); this will also give you experience with charts and tables. See the grading matrix that follows. As discussed above, the daily lab grades will be based upon completeness and quality. A deduction will be taken for assignments turned in late. In lecture there will be a few, also 3 or 4, short assignments or exercises that will also be counted toward your grade. These short reports or exercises will count from 5 to 10 points each. No extra credit opportunities are planned and the grading is in accordance with University policies. Your grade will be responsive to the work done by all students in the class.

Please note that there may be special support opportunities if you are having trouble and require extra help. First, contact Prof. Crow and also determine if tutoring is available. Any special needs students should let Prof. Crow know immediately at the beginning of the semester. All such information will be kept in strictest confidence. Note that the course follows University policies with respect to all educational matters.

Be advised that all electronic equipment (phones, recorders, transmitters, and the like must be off upon entering the lecture hall or laboratory). There can be no food in the laboratory and no eating or drinking in lecture either. If you use your

phone, or other electronic device in lecture or lab for recording or outside communication of any kind, you will be ejected from that class or lab. The exception is, photographing of laboratory work specimens is allowed. Assume >90% = A; >88% = B+; >80% = B; > 78% = C+; >70% = C; >60% = D; and <60% = F; note the lecture and lab attendance requirements as well as participation will influence your grade. Remember, the lecture and lab are graded separately at this time.

Improvement counts in this course, so it is important to be encouraged by that fact. This will be the basis for movement of a grade upward. Such improvement may result in as much as a one-half grade improvement for the course.

*** Please note that students must abide by the the University and College policies with respect to student conduct. Also, be polite, raise your hand and be acknowledged by Professor Crow or lab instructor before you speak. ***

Academic Dishonesty: The course has a zero tolerance policy for academic dishonesty, including plagiarism and cheating. Instances of dishonesty will be punished by a zero on the assignment and consultation with the Academic Integrity Officers to determine if further action is required. If you have any questions about what constitutes plagiarism or cheating, please ask your instructors or refer to the academic integrity websites for Rutgers and NJIT:

<http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers>

<http://studentconduct.rutgers.edu/>

<http://www.njit.edu/academics/integrity.php>

Cell Phone policy, etc.: cell phones are not allowed in lecture and must be turned off completely. A penalty of 10 points will be deducted from you grade if your cell phone goes off in class. Cell phones cannot be on your person or available and within reach during any form of exam or quiz. Violation of this policy will automatically result in a cheating allegation and will be turned over to the Dean for enforcement; your cell phone may be confiscated by the professor and turned over to the Dean; you will not be allowed to continue taking the quiz or exam and will be required to leave the room. No audio or video recording of any kind will be allowed in lecture or lab with the exception of those specific items listed below.

Exception for lecture: at the the end of each lecture there will be an opportunity for students to photograph the blackboard as a means of getting the professor's sketches, etc.

Exception for laboratory: use of cell phone cameras is allowed as a means to record plants, plant parts, and materials used in laboratory. Photos do not substitute for drawings, but may aid you in that respect and allow you to record details precisely. Photos must be carefully labelled if used as part of the lab reports. Professor Crow or your lab instructor will assist you, as needed.

Lecture and Laboratory Points

item	points*
Lecture	
attendance	20
quizzes	120
botanical garden trip & report	75
term paper	80
final	160
other assignments	20
total lecture (approx.) =	475
Laboratory	
10 each	135
4 assignments	45
2 quizzes (15 each)	30
botanical garden trip & report	75
midterm	60
final	130
total lab =	475
*points subject to change	



Professor Crow examining a tree in the garden at San Juan Capistrano, CA.

Lecture Schedule - spring 2016 - see the separate reading assignment pages

1	1/19	Introduction - shopping for a plant, pots, and more - container gardening - seasonal issues
2	1/21	Scientific method(s) - Plant parts and diversity - plant(s) of the day - report topic assignments
3	1/26	Asexual plant reproduction - clones, division, cuttings plus mitosis
4	1/28	Sexual plant reproduction - flowers, fruits, and seeds and review plus meiosis
5	2/2	QUIZ 1 and review - Soils intro/texture/tilth/structure (eval. of the soils & quick tests); nutrition
6	2/4	Soil moisture parameters
7	2/9	Planting and soil preparation indoors and out - landscaping - plant report outline & citations due!!
8	2/11	Review day
9	2/16	QUIZ 2 and review - plant(s) of the day
10	2/18	Fertilizing the above, composts, etc.
11	2/23	Water, watering, and humidity (demonstrations with soil & psychrometers) & quick campus walk
12	2/25	QUIZ 3 and review - Landscaping, gardens, lawns, trees, annuals, and perennials
13	3/1	More about landscaping and gardening - plant(s) of the day
14	3/3	Botanical gardens of the world
15	3/8	QUIZ 4 and review - Plant anatomy - plant metabolism
16	3/10	Complete plant metabolism - seasonal issues, frost, etc. - plant(s) of the day
3/12 to 3/20		Spring Vacation
17	3/22	Flex Lecture 1 - Botanical Garden week and completion of research papers
18	3/24	Flex Lecture 2
19	3/29	Flowers and fruits - research papers due via email by 6 PM!!!!
20	3/31	More flowers and fruits - plant(s) of the day
21	4/5	Hormones and other considerations - plant(s) of the day
22	4/7	QUIZ 5 and review - Temperature both indoor and outdoor considerations
23	4/12	Introduction to light (intensity, quality, day length)
24	4/14	More about light - plant(s) of the day
25	4/19	Biocides & celebration
26	4/21	QUIZ 6 - Vegetable gardens, herb gardens, and selected gardens
27	4/26	Diseases and assorted plant maladies plus diagnostics
28	4/28	Last Day of Class - Lecture Review for the Final Exam
		Reading Days: May 3 and 4
		Final Exam - May 10th at 8:30 to 11:20 AM in Hill 107 - No one admitted after 8:35 AM.

* Prof. Crow's office hours are ordinarily T-Th 8:45 to - 9:45 AM and by appointment.

Laboratory	Date	Subject
lab 1 Protocol 1	Jan. 26 & 27	<p>The Plant Body Specific subjects include general morphology of the shoot and root. In addition, the lesson covers leaves, leaf arrangement, venation, and margins. The lesson also covers such things as woody and herbaceous plants, Angiosperms, Gymnosperms, monocots, dicots, and spore producing plants such as ferns.</p>
lab 2 Protocol 2	Feb. 2 & 3	<p>Plant Reproduction - Seeds - Sexual Reproduction This laboratory is about how to start seeds of various types and begins a semester-long 'competition' for successful growth of plants started in the laboratory. We will start some seeds suspended in plastic freezer bags. This exercise is begun in the lab and carried home. The exercises include cleaning, soaking, and planting seeds. Ultimately, some of the seeds are replanted at a later point in time. Both row and broadcast seeding are demonstrated. Seeds will be planted that will serve as examples of genetic types that will ultimately be referenced in lectures that come later in the semester. The class will record their observations in subsequent weeks.</p>
lab 3 Protocol 3	Feb. 9 & 10	<p>Plant Reproduction - Asexual Reproduction Cuttings are used to asexually reproduce plants and is one of the most important means of reproduction in horticulture. Such plants are actually clones. The exercises include how to make and start cuttings. Cuttings may come from stems or leaves depending upon the plant type. Students also learn about the techniques of layering, including air layering, and grafting (to a limited extent). Plant growth substances are also used in this lab. Certain experiments will continue for several weeks and will require weekly evaluations. Bulbs, corms, and rhizomes will be investigated. Cold and other treatments will be initiated in this laboratory.</p>
lab 4 Protocol 4	Feb. 16 & 17	<p>Soils - Part 1 Soil texture is investigated in this laboratory. Subjects include, examination of various soil textures; the textural triangle, mechanical analysis, field methods, commonly used soil mixes and components, and fertilizers. Soil quick tests and other chemical measurements will be made on selected soil media with reference to field condition. Nutrient deficiencies symptoms and causes will also be investigated in this laboratory. Depending upon growth of seeds germinated earlier, seed will be transplanted in this laboratory.</p>
lab 5 Protocol 5	Feb. 23 & 24	<p>Soils - Part 2 A variety of tests are used to evaluate properties and standard soil parameters. Among the parameters to be investigated are saturation, field capacity (ability of soils to 'hold' water, and non-capillary pore space (air space in the soil)). In addition, observations will be made and recorded for permanent wilting percentage. The relationships of these to other soil parameters such as pH and soil fertility will be investigated.</p>
lab 6 no protocol	Mar. 1 & 2	Laboratory 6 - Mid-term Examination
lab 7 Protocol 7	Mar. 8 & 9	<p>The Plant Kingdom Representative plant examples along with fungi and bacteria will be examined. The laboratory demonstrates diversity and also includes organisms that may be pathogens to higher plants. Symbiotic and parasitic relationships will be investigated in this lab. Students will visit the greenhouse. A related campus walk will be done in lecture.</p>
	Mar. 12 thru 20	Spring Vacation
lab 8 Protocol 8 is the instruction for reporting on your trip to the garden	Mar. 22 & 23	<p>Botanical Garden Week This provides you with a credited day to go to the botanical garden in case you have not already done so and provide you with some reporting time - my 1st choice is the Brooklyn Botanic Garden. I have set this in lab 8 so that the weather will be more likely to be cooperative and the seasonal growth more advanced at the gardens. By this time many plants will be in bloom that you could not have seen earlier in the season. This will not put a break in the final labs and final.</p>

Laboratory	Date	Subject
lab 9 Protocol 9	Mar. 29 & 30	Plant Anatomy Cells, tissues, and overall anatomy of higher plants will be examined. Differences between the anatomy of roots vs. shoots, monocots vs. dicots, soft vs. hardwoods, and so forth will be studied. The importance of the information to practical horticulture is central to this lab. Ecological variation in plant species will also be investigated.
lab 10 Protocol 10	Apr. 5 & 6	Flowers: Structure and Variety Flowering plants dominate the terrestrial landscape and show tremendous variation in form, physiology, and ecological characteristics. The lab will require careful dissection of flowers. Selected plant families will be represented and will need to be described in exercises. There will be an identification exercise where students will construct a dichotomous key. A professional key will be given to the students in a parallel exercise. The form of flowers will be matched, in certain cases, with the environments in which they grow.
lab 11 Protocol 12	Apr. 12 & 13	Fruits The various kinds of fruits will be examined in laboratory. A fruit key will be provided for reference. The lab will include anatomical evaluations of fruits. Some semester review time will be planned for the end of this lab.
lab 12 no protocol	Apr. 19 & 20	Final Lab Exam in our laboratory

If you have an questions please contact Prof. Crow in person or by email - drcrow@verizon.net; and remember to use the code GHf15 followed by your name and why you are writing me in the subject line of the email. If you do not follow this instruction, I may never see your email!!!!

Required Texts:

D.R. Bienz. “The Why and How of Home Horticulture.”

This text is available from iBooks and Amazon digital books at very economical prices; the books are also available in hardcopy directly from Amazon. This text will be used for daily assignments; the reading assignments follow in this syllabus

Barbara Pleasant, “The Complete Houseplant Survival Manual.”

This text is available in digital and hardcopy formats from Amazon. It will be used as a reference for specific plants and examples as subjects arise.

Professor Crow will demonstrate some great features of the digital texts. You are required to have digital copies of the texts. The laboratory protocols will be available in advance of the laboratory sessions in pdf format on the website.

Note, Prof. Crow will announce other reading assignments.

If you have any questions please contact Prof. Crow in person or by email. Remember to use the correct subject code in your correspondence.

D.R. Bienz. "The Why and How of Home Horticulture."

This is the basic **required** reading for class this semester. You will see that this also corresponds with many subjects in laboratory. The book is comprehensive, but because of the organization, one can pick and choose pertinent sections. Also, because the book is in a digital format from either Apple's iBooks or Amazon, you can find do searches that will help you find materials quickly. Of course, the book is available as a hardcopy as well. The notations to the right are the lecture numbers, so look through the entire list. NOTE - other reading assignments will be made in class and on the website, Blackboard, or email.

Table of Contents

CHAPTER 1 - Plants and People AGRICULTURE, GARDENS, AND CIVILIZATION HORTICULTURE IN RELATION TO OTHER DISCIPLINES CLASSIFICATION OF HORTICULTURAL CROPS WHY GROW A GARDEN?	L1 & 2
CHAPTER 2 - Structure and Growth: The Vegetative Phase PHASES OF PLANT GROWTH THE CELL PLANT TISSUE AND STRUCTURE PLANT FUNCTIONS RESPONSIBLE FOR GROWTH PHOTOSYNTHESIS, RESPIRATION, AND THE ATMOSPHERE	L2 & 15
CHAPTER 3 - Structure and Growth: The Reproductive Phase THE FLOWER THE SEED POLLINATION THE FRUIT	L17 & 18
CHAPTER 4 - Propagation of Garden Plants CONTAINERS AND MEDIA FOR PLANT PROPAGATION PROPAGATING PLANTS FROM SEED PROPAGATING PLANTS ASEXUALLY	L5 & 10-14 L1 & 5-7 L4 L3
CHAPTER 5. - Soil and Soil Fertility PHYSICAL AND CHEMICAL RELATIONSHIPS OF PLANT-GROWING MEDIA SOIL FERTILITY MANAGING SOIL AND FERTILIZER FOR THE GARDEN	L5-11 L5 & 10 L10 L10 & 11
CHAPTER 6 - Water and Irrigation THE MOISTURE CYCLE WATER AND PLANT GROWTH WATER QUALITY AND WATER POLLUTION IRRIGATION	L11
CHAPTER 7 - Climate, Temperature, and Light CLIMATE AND HORTICULTURE PLANT ADAPTATION TO CLIMATE & OTHER FACTORS OF THE ENV. TEMPERATURE LIGHT AND THE GROWTH OF GARDEN PLANTS	L16 & 22-24 L22 L23 & 24

CHAPTER 8 - Regulating Plant Growth PLANT SPACING” GROWTH CONTROL BY PRUNING CHEMICAL MODIFICATION OF PLANT GROWTH OTHER WAYS OF MODIFYING PLANT GROWTH	L12 & 21
CHAPTER 9 - Garden Pests Pesticide Regulations WEEDS PLANT DISEASE AND INSECT PESTS CONTROL OF GARDEN INSECTS AND DISEASES BIRDS AND ANIMALS	L25-27
CHAPTER 10 - Indoor and Container Gardening ENVIRONMENTAL LIMITATIONS TO GROWING PLANTS INDOORS ADAPTING INDOOR PLANTS TO A CHANGING ENVIRONMENT KINDS OF PLANTS FOR INDOOR GARDENING TAKING CARE OF CUT FLOWERS AND GIFT PLANTS CONTAINER PLANTING OUTDOORS SPECIALIZED STRUCTURES FOR PLANT GROWING *1 - References to these subjects from time to time in class - be prepared to refer to this chapter.	*1
CHAPTER 11 - The Ornamental Garden THE HOME LANDSCAPE WOODY PLANTS AND PLANTINGS HERBACEOUS PLANTS AND PLANTINGS LAWNS AND OTHER GROUND COVERS	L12-14
CHAPTER 12 - The Vegetable and Herb Garden PLANNING THE VEGETABLE GARDEN GROWING THE VEGETABLE AND HERB GARDEN VEGETABLES AND HERBS IN THE LANDSCAPE GROWING HINTS FOR VARIOUS VEGETABLES GROWING TEMPERATE-ZONE HERBS “HARVESTING HERBS A FEW OF THE MORE POPULAR TEMPERATE-ZONE HERBS	L12-14
CHAPTER 13 - Growing Fruit SMALL FRUIT PRODUCTION IN THE HOME GARDEN TREE-FRUIT PRODUCTION IN THE HOME GARDEN	L12-18
CHAPTER 14 - The Handbook PURPOSE AND ORGANIZATION SOURCES OF GARDENING INFORMATION SOIL PREPARATION TESTING SEED GERMINABILITY ESTIMATING PLANTING DATE PROPAGATING PLANTS FROM SEED PROPAGATING WITH CUTTINGS LAYERING TO RENEW OR MULTIPLY PLANTS PROPAGATING FROM FLESHY STORAGE ORGANS GRAFTING AND BUDDING GROWING GARDEN SEED AT HOME TRANSPLANTING WOODY PLANTS REPOTTING	L7 L1 & 7 L4 & 27 L4 L3 L3 L3 L3 L3 L4 L7 & 12 L7

CHAPTER 14 - The Handbook continued

MULCHING WITH SHEET MATERIALS	L13
COMPOSTING	L13
FERTILIZING GARDEN CROPS	L13
IRRIGATING GARDEN CROPS	L13 & 21
PRUNING AND TRAINING	L13
LANDSCAPE CONSTRUCTION	L13 & 14
HARVESTING	
STORING HORTICULTURAL PRODUCTS	
HOME PROCESSING	
NUTRITIONAL VALUES OF HORTICULTURAL FOODS	
CONTROLLING GENERAL GARDEN PESTS	L27
CLIMATE, HARDINESS, AND MATURITY	L16
PLANTS FOR THE LANDSCAPE	L16
Questions for Review and Discussion	

Glossary

Conversion Tables

Index

Notes

D.R. Bienz. "The Why and How of Home Horticulture," available from iBooks and Amazon digital books at very economical prices.

Rutgers-NCAS Academic Calendar:

Spring semester begins Tuesday, January 19, 2016;

Spring recess from March 12 through March 20, 2016;

Classes end Monday May 2, 2016;

Reading days are May 3 and 4; and

Final Exams extend from Thursday, May 5 through Wednesday, May 11, 2016.

Please note that this syllabus is subject to change. Students will be notified in class, by Blackboard, or the web including the class website, drcrow.org.

**Good luck and enjoy,
Prof. Crow**