



*Georgia Green Industry
Junior Certification*

Level II

Event Location

The Georgia Green Industry Junior Certification Level II student competition will be held at GGIA Wintergreen in January (**2008**) in conjunction with the Level I competition.

Events

- 50 question multiple choice exam based on information from level I and II
- Plant identification practicum. (25 plants) Level I plant list expanded.
- Pest Identification (15 insect, disease, nutrient deficiencies, and cultural problems)
- Landscape Plan Take Off (10 multiple choice questions answered by reading a planting plan)

Eligibility

Students grades 6- 12th who have successfully passed GGIA Jr. Certification **Level I** and have submitted a **completed portfolio**, registration form and registration fee (GGIA member schools \$25, non-member schools \$35) the North Region Agriculture Education office by **Dec. 1st**.

Portfolio

Before, during and after photographs of the student demonstrating proficiency in **one** of the following areas of landscaping: (1) proper pruning of a hardwood tree, (2) sod installation, (3) design and installation of a small landscaped area utilizing Xeriscape principles or (4) proper tree planting. The student will need include proof of an internship (15 hours) working with a Green Industry Professional. The portfolio may be submitted as a Power Point presentation on CD or printed in a ring binder.

Teacher Resources

The Level II certification will use the Georgia Certified Landscape Professional manual and Web CT course. The manual is available to teachers in accredited schools for \$35 and may be purchased by contacting the UGA Center for Urban Agriculture at 770-233-6107.

Student Recognition

All students that successfully complete the Level II certification will receive an embroidered GGIA Jr Level II "Golf Shirt", certificate, and recognition on the GGIA Website.

If you have questions about the GGIA Jr. Certification Level II program please contact Dr. Teri Hamlin at thamlin@doe.k12.ga.us or Todd Hurt at thurt@uga.edu .



*Georgia Green Industry
Junior Certification*

Level II

To register for GGIA Jr. Certification Level II fill out the below information and fax or e-mail to Dr. Teri Hamlin @ 706-542-9602, or thamlin@doe.k12.ga.us .

Teacher Name: _____

School Name: _____

Number of Students: _____ (Max 10/teacher)

Name of Students: (required for name badges)

***** A completed portfolio and registration fee (GGIA member schools \$25, non-member schools \$35) that must be received by Dec. 1st to be eligible for the Level II exams. *****

Portfolios should be mail to:

Dr. Teri Hamlin
North Region Agriculture Education
Georgia Department of Education
Four Towers, University of Georgia
Athens, Georgia 30602
706-542-3679



GCLP Manual Used for GGIA Jr. Certification Level II

Name: _____

Address: _____

School Affiliation: _____

Home Phone: _____

Email Address: _____

Payment: (This is a discounted rate only available to educators/students in accredited schools)

Manual only: \$35.00

If instructor is interested in personally pursuing GCLP professional certification, contact Todd Hurt at thurt@uga.edu or 770-229-3251.

Make check payable to UGA

Mail to: GA Center for Urban Ag, 1109 Experiment St., Griffin, GA 30223



*Georgia Green Industry
Junior Certification Level II
Study Guide*

Written Exam- 50 Minutes

(50 multiple choice questions)

- 1. Recognizing Plant Parts and Their Function**
 - a. Roots, Stems, Leaves, Flowers, Seed
- 2. Classification of Plants**
 - a. Herbaceous, Woody, Growth Habit, Size, Form, Environmental Requirements, Habitat, Light, Water, Uses
 - b. Scientific nomenclature
- 3. Plant Growth and Environment effects**
 - a. Photosynthesis, Respiration, Hardiness Zone, Temperature, Light, Water
- 4. Managing Soils & Fertility**
 - a. Soil composition, texture, structure
 - b. pH & soil reaction
 - c. Essential element for plant growth
 - d. Fertilizer analysis and ratio
 - e. Fertilizer Application – Methods, Timing
- 5. Planting ,Establishing and Maintenance in the Landscape**
 - a. Best time to plant
 - b. Preparation of site
 - c. Planting procedures
 - d. Mulching
 - e. Pruning (Time of year, Techniques, Tools)
 - f. Watering
- 6. Pest Management**
 - a. Insect (Classification, Body Regions, Mouthparts, Metamorphosis, Control Methods)
 - b. Disease (Fungi, Bacteria, Viruses, Nematodes, Control Methods)
 - c. Weeds (Classification, Control Methods)
- 7. Pesticides and Safety**
 - a. Types and Uses of Pesticide
 - b. Types of Formulations
 - c. Labels – Signal Words, Brand, Chemical & Common Name
 - d. Using pesticides safely
- 8. Landscape Design**
 - a. Elements of a good design (Line, Form, Texture)
 - b. Principles of a good design (Simplicity, Balance, Proportion, Focalization, Rhythm and Line)
 - c. Interpreting a Planting Plan
 - d. 7 steps of a Xeriscape design
- 9. Landscape Tools and Equipment**
 - a. Differences between 2-cycle and 4-cycle engines
 - b. Spark Plug service
- 10. Hardscapes**
 - a. Materials and terminology
 - b. Failures in Retaining Walls

11. Landscape Irrigation

- a. Equipment selection/water pressure
- b. Application rate
- c. Controller operation and timing

12. Turfgrass Selection, Establishment and Maintenance

- a. Cool season v/s warm season
- b. Establishment methods
- c. Irrigation, Mowing, Fertilization

13. Weed Control

- a. Weed Classification
- b. Non-chemical controls
- c. Herbicides (types, rate calculation, application methods)

Pest Identification – 30 minutes (15 live samples or photos)

Common Landscape Insects, Diseases and Abiotic Problems such as but not limited to the following:

Diseases-

Fungal Leaf Spots
Bacterial Leaf Spots
Dogwood Anthracnose
Root Rot
Powdery Mildew
Downey Mildew
Viral Disease (mosaics or ring spot)
Black Spot of Rose
Rust (fungal)
Fire Blight (bacterial)
Aster Yellows (phytoplasma)
Leaf Galls
Bot Canker
Black Knot of Cherry
Phomopsis (Tip Blight)
Petal Blight
Entomosporium leaf spot
Algal Leaf Spot
Tar Spot of Maple
Oak Leaf Blister
Fusiform rust
Cercospora (fungal leaf spot)

Abiotic –

Too Much Water
Too Little Water
Over-fertilization
Under-fertilization
Sun Scald
Cold Injury

Herbicide Injury
Planted too deeply
Ph Problems (Iron Deficiency)

Oedema

Lichens

Turf-

Brown Patch
Dollar Spot
Pythium Root Rot
Gray Leaf Spot
Slime Mold
Fairy Ring

Insects-

Mole Crickets
White Grubs
Spittlebugs
Chinch bugs
Sod webworms/armyworms
Cutworms
Scale (various spp.)
Lacebugs
Aphids
Whiteflies
Tent Caterpillars
Fall Webworm
Spidermites
Ambrosia Beetles
Leafminers
Japanese Beetles
Mealybugs

Landscape Plan Take Off – 20 minutes

Students will need to bring a calculator and ruler. They will be provided a landscape planting plan drawn to scale and will be asked to answer 10 multiple choice questions that reference the plan. Questions cover scale, area calculations, planting times/costs, plant selection, and material calculations.

Plant Identification – 50 minutes

Students will observe identify 25 plant samples (cuttings, leaves, fruit and/or flowers) from common landscape plants and weeds. They will need to know plants from the Level I exam tables and plants on the advanced Level II table.

Level II Plant List includes the 140 plants on Level I plus the following:

TREES/ SHRUBS/ VINES/ GROWDCOVERS

| | | | |
|----|-------------|------------------------|-------------------------------|
| 1 | Acer | buergeranum | Trident Maple |
| 2 | Acer | saccharinum | Silver Maple |
| 3 | Aesculus | pavia | Red Buckeye |
| 4 | Albizia | julibrissin | Mimosa (Silk tree) |
| 5 | Aspidistra | elatior | Cast-iron plant |
| 6 | Calycanthus | floridus | Sweet Shrub |
| 7 | Campsis | radicans | Trumpet Vine |
| 8 | Cedrus | deodara | Deodar cedar |
| 9 | Chionanthus | virginicus | Fringe Tree |
| 10 | Cornus | kousa | Kousa Dogwood |
| 11 | Cortaderia | selloana | Pampas Grass |
| 12 | Cotinus | coggygaria | Smoke Tree |
| 13 | Cryptomeria | japonica | Japanese Cryptomeria |
| 14 | Cycas | revoluta | Sago Palm |
| 15 | Cytisus | scoparius | Scotch broom |
| 16 | Cyrtomium | falcatum | Holly Fern |
| 17 | Deutzia | gracilis | Deutzia |
| 18 | Elaeagnus | pungens | Thorny Elaeagnus |
| 19 | Erioborria | japonica | Loquat |
| 20 | Fagus | grandifolia | Beech |
| 21 | Fatsia | japonica | Fatsia |
| 22 | Ficus | carica | Fig |
| 23 | Ficus | pumila | Creeping Fig |
| 24 | Gelsemium | sempervirens | Carolina Yellow Jasmine |
| 25 | Hamamelis | virginiana | Witch Hazel |
| 26 | Hibiscus | rosa-sinensis | Chinese Hibiscus |
| 27 | Hibiscus | syriacus | Shrub Althea (Rose-of-Sharon) |
| 28 | Hypericum | calycinum | St. John's-wort (Aaronsbeard) |
| 29 | Ilex | aquifolium | English Holly |
| 30 | Ilex | x 'Nellie R. Stevens' | Nellie R. Stevens Holly |
| 31 | Ilex | x attenuata 'Foster' | Foster Holly |
| 32 | Ilex | x attenuata 'Savannah' | Savannah Holly |
| 33 | Ilex | cornuta 'Rotunda' | Rotunda Holly |
| 34 | Ilex | crenata 'Helleri' | Helleri Holly |
| 35 | Ilex | glabra | Inkberry (Gallberry) |

| | | | |
|----|-----------------|-------------------------|---|
| 36 | Ilex | latifolia | Lusterleaf Holly |
| 37 | Ilex | opaca | American Holly |
| 38 | Itea | virginica | Virginia Sweetspire |
| 39 | Jasminum | nudiflorum | Winter Jasmine |
| 40 | Juniperus | chinensis 'Pfitzeriana' | Pfitzer Juniper |
| 41 | Juniperus | chinensis 'Torulosa' | Hollywood Juniper |
| 42 | Juniperus | davurica | Parson's Juniper |
| 43 | Juniperus | virginiana | Eastern Red Cedar |
| 44 | Kalmia | latifolia | Mountain Laurel |
| 45 | Kerria | japonicum | Japanese Kerria |
| 46 | Koelreuteria | paniculata | Golden Rain Tree |
| 47 | Ligustrum | japonicum | Wax Leaf Ligustrum |
| 48 | Lonicera | fragrantissima | Winter Honeysuckle |
| 49 | Lonicera | japonica | Japanese Honeysuckle |
| 50 | Loropetalum | chinense | Loropetalum (Fringe Flower) |
| 51 | Magnolia | stellata | Star Magnolia |
| 52 | Magnolia | virginiana | Sweet Bay Magnolia |
| 53 | Magnolia | soulangiana | Saucer Magnolia |
| 54 | Malus | spp. | Crabapple (apple) |
| 55 | Metasequoia | glyptostrobooides | Dawn Redwood |
| 56 | Miscanthus | sinensis | Maiden Grass |
| 57 | Nerium | oleander | Oleander |
| 58 | Oxydendrum | arboreum | Sourwood (Sorrel Tree) |
| 59 | Parthenocissus | quinquefolia | Virginia Creeper (Woodbine) |
| 60 | Pennisetum | setaceum | Fountain Grass |
| 61 | Photinia | x fraseri | Fraser Photinia (Red Tip) |
| 62 | Pinus | virginiana | Virginia Pine (Scrub Pine) |
| 63 | Pinus | thunbergiana | Japanese Black Pine |
| 64 | Pittosporum | tobira | Japanese Pittosporum |
| 65 | Platanus | occidentalis | Sycamore (American Planetree) |
| 66 | Podocarpus | macrophyllus | Podocarpus (Southern Yew) |
| 67 | Prunus | caroliniana | Carolina Cherry Laurel |
| 68 | Prunus | laurocerasus | English Laurel (Cherry Laurel) |
| 69 | Prunus | serrulata | Japanese Flowering Cherry (Oriental Cherry) |
| 70 | Quercus | alba | White Oak |
| 71 | Quercus | falcata | Southern Red Oak |
| 72 | Quercus | nigra | Water Oak |
| 73 | Quercus | phellos | Willow Oak |
| 74 | Rhus | typhina | Staghorn Sumac |
| 75 | Rosa | banksiae | Lady Banks rose |
| 76 | Rosa | laevigata | Cherokee Rose (State Flower) |
| 77 | Taxodium | distichum | Bald Cypress |
| 78 | Thuja | orientalis | Oriental Arborvitae |
| 79 | Trachelospermum | asiaticum | Asiatic Jasmine |
| 80 | Trachelospermum | jasminoides | Confederate Jasmine |
| 81 | Trachycarpus | fortunei | Windmill Palm |
| 82 | Tsuga | canadensis | Canadian Hemlock |

| | | | |
|----|----------|--------------|---------------------------------|
| 83 | Ulmus | parvifolia | Chinese Elm (Lacebark Elm) |
| 84 | Viburnum | opulus | European Cranberrybush Viburnum |
| 85 | Viburnum | x pragense | Pragense Viburnum |
| 86 | Vinca | minor | Periwinkle |
| 87 | Vitex | angus-castus | Vitex (Chaste Tree) |
| 88 | Weigela | florida | Weigela |
| 89 | Wisteria | sinensis | Wisteria |
| 90 | Zelkova | serrata | Japanese Zelkova |

ANNUALS & PERENNIALS

| | | | |
|-----|--------------|----------------|-------------------------------|
| 91 | Achillea | spp. | Yarrow |
| 92 | Agapanthus | africanus | Lily of the Nile |
| 93 | Artemisia | ludoviciana | Silver King' Wormwood |
| 94 | Asclepias | tuberosa | Butterfly Weed (Milkweed) |
| 95 | Asparagus | sprengeri | Asparagus Fern |
| 96 | Celosia | spp. | Celosia |
| 97 | Ceratostigma | plumbaginoides | Plumbago |
| 98 | Coreopsis | verticillata | Threadleaf Coreopsis |
| 99 | Delosperma | cooperi | Hardy Ice Plant |
| 100 | Dianthus | spp. | Dianthus |
| 101 | Dicentra | spectabilis | Bleeding Heart |
| 102 | Dryopteris | erythrosora | Japanese Autumn Fern |
| 103 | Gaillardia | aristata | Blanket Flower (Fiesta Daisy) |
| 104 | Gomphrena | globosa | Globe Amaranth |
| 105 | Helianthus | angustifolius | Swamp Sunflower |
| 106 | Heuchera | sanguinea | Coral Bells |
| 107 | Lobelia | cardinalis | Cardinal Flower |
| 108 | Lobularia | maritima | Alyssum |
| 109 | Lythrum | salicaria | Purple Loosestrife |
| 110 | Melampodium | cinereum | Mountain Daisy |
| 111 | Monarda | didyma | Monarda (Bee Balm) |
| 112 | Perovskia | atriplicifolia | Russian Sage |
| 113 | Portulaca | grandiflora | Moss Rose |
| 114 | Rudbeckia | fulgida | Black-eyed Susan |
| 115 | Salvia | officinalis | Common Sage |
| 116 | Salvia | splendens | Annual Salvia |
| 117 | Salvia | farinacea | Blue Salvia |
| 118 | Sedum | spp. | Stonecrop |
| 119 | Solidago | spp. | Goldenrod |
| 120 | Stachys | lanata | Lamb's Ear (Woolly Betony) |
| 121 | Stokesia | laevis | Stokes' Aster |
| 122 | Thymus | vulgaris | Common Thyme |
| 123 | Veronica | longifolia | Veronica |

LAWN GRASSES

| | | | |
|-----|--------------|------------|--------------------|
| 124 | Stenotaphrum | secundatum | St. Augustinegrass |
|-----|--------------|------------|--------------------|

COMMON WEEDS

| | | | |
|-----|----------------|----------------|--------------------------------|
| 125 | Andropogon | virginicus | Broomsedge |
| 126 | Ambrosia | artemisiifolia | Ragweed |
| 127 | Capsella | bursa-pastoris | Shepherdspurse |
| 128 | Chenopodium | album | Common Lambsquarters |
| 129 | Cuscuta | spp. | Dodder |
| 130 | Dactyloctenium | aegyptium | Crowfootgrass |
| 131 | Daucus | carota | Queen Ann's Lace (Wild Carrot) |
| 132 | Eleusine | indica | Goosegrass |
| 133 | Eupatorium | capillifolium | Dogfennel |
| 134 | Euphorbia | maculata | Prostate Spurge |
| 135 | Erigeron | annuus | Annual Fleabane |
| 136 | Geranium | carolinianum | Carolina geranium |
| 137 | Hydrocotyle | spp. | Pennywort/Dollarweed |
| 138 | Ipomoea | spp. | Morningglory |
| 139 | Lamium | amplexicaule | Henbit |
| 140 | Phyllanthus | urinaria | Chamberbitter |
| 141 | Phytolacca | americana | Common Pokeweed |
| 142 | Polygonum | pensylvanicum | Pennsylvania Smartweed |
| 143 | Portulaca | oleracea | Common Purslane |
| 144 | Pueraria | lobata | Kudzu |
| 145 | Pyrrhopappus | carolinianus | Carolina False Dandelion |
| 146 | Rubus | spp. | Blackberry |
| 147 | Rumex | acetosella | Red Sorrel |
| 148 | Rumex | crispus | Curly Dock |
| 149 | Setaria | spp. | Foxtail |
| 150 | Smilax | rotundifolia | Common Greenbriar |
| 151 | Sorghum | halepense | Johnsongrass |
| 152 | Verbascum | thapsus | Common Mullein |