

FACILITIES FOR AGRICULTURAL SCIENCE & BUSINESS PROGRAMS

1. Classroom - 825 sq. ft. based upon 25 students @ 33 sq. ft.
If plan to have computer stations in classroom area - add 300-400 sq. ft. for a total of 1125 sq. ft. plus science lab set-up and storage cabinets
2. Laboratory area/shop - 2,400 sq. ft. Based upon 20 students @ 120 sq. ft. If having an agricultural science laboratory area with bench type space, etc - add 43 sq. ft. per student.
3. Office/conference/research area - 350 sq. ft.
4. Storage - 400 sq. ft.
5. Greenhouse - Min. 1600 sq. ft.
Primary greenhouse should be “hard surface house.” Need head house prep area and sales area in addition to the 1600 sq/ ft. growing space approximately 1150 sq. ft. Secondary greenhouse if needed: recommend two poly layers with air.
6. Land laboratory - 1 acre minimum – Nursery, turf research, etc.

Other learning/teaching areas:

- a. Aquaculture/hydroponics - 150 sq. ft. / student
- Large, medium and small tanks
- b. Small animal - 30 sq. ft. / student
- Research
- c. Food Science - 43 sq. ft. / student
- Lab as above

LIST OF POTENTIAL EQUIPMENT/SUPPLIES FOR AGRICULTURAL SCIENCE & BUSINESS

ANIMAL SCIENCE

ALS Lab Kit
Animal specimens from reputable sources
Aquaculture system - purchase complete or build your own
Backfat probe
Balling gun
Clippers
Cover slips
Drencher
Ear notcher
Ear punch
Filet knives
Fish tanks/aquariums
Grooming kit - Large & Small Animal
Hanging scale
Hog holder
Hoof rasp
Hoof pick/brush
Incubators
Light microscopes
Medicine droppers
Methylene blue/iodine stain
Microwave oven
Needle teeth clippers
Nylon animal syringes
Plastic gloves
Plastic aprons
PVC fittings to build student aquaculture research systems
PVC pipe
Scalpels
Scissors
Small animal cages
Stethoscope
Suture needles
Tail docker/emasculator
Video - microscope (if possible)
Water heaters for aquaculture tanks
Water test equipment
Water pumps, large tanks, biofilter materials
Waterers /feeders for small animals, birds, etc.

PLANT/SOIL SCIENCE

ALS Lab Kit
Calculators
Compound microscopes
County Soil Survey Manual
Crop seed samples
Dissection kits
DNA staining kit
Ear plugs
Eye dropper
Eye safety goggles
Hand-held GPS receiver
Hydrometer cylinder
Insect kits
Light microscopes and supplies
Magnifying glasses
Models
Monoliths trays
Particle masks
PH meter
Plant specimens
Plant cloning kit
Plant tissue test kits
Plastic or metal sieves
Rulers
Science lab equipment
Seed ID kits
Soil color charts
Soil samples
Soil probes
Soil augers
Soil sterilizer
Soil test kits
Soil monolith
Soil compaction tester
Triple beam scale
Video camera
Weed ID Kits
Wet Mount Slides & cover slips

Horticulture Science/Landscape Management Facilities

Classroom Min-825 sq. ft. - if plan to do computer work with CAD design - need area
- add 300-375 sq. ft. Total 1125-1120 sq. ft.

Conference/library/student research area with shelving, cabinets, etc.
150 sq. ft. Min. - Rec. 240 sq. ft.

Shop/lab area for machine and equipment demo's/storage - 1200 sq. ft.
Small tool/chemicals/supplies storage - 400 sq. ft.

Primary Greenhouse Min. 1,600 sq. ft. 20 students @ 80 sq. ft.
"Hard surface house" The Greenhouse is a "growing plant" area!! Not for flats/pots,
storage etc.

Headhouse prep area and customer sales area 1150 sq. ft. - in addition to the 1600 sq. ft.
growing space

Shade/Lath house 1,000 sq. ft.

Cooler - Flowers/plant material for floral 100 sq. ft.

Secondary greenhouse for additional plants at different temperature levels 20 x 40, etc.
- consider two poly layers with air

Land laboratory area 3 acres for trees, shrubs, flowers (perennial area)

HORTICULTURE SCIENCE - POSSIBLE EQUIPMENT/SUPPLIES

*See Landscape Management list - select appropriately!

Anvil pruners

Architect's scale

Atomist sprayers/fogger

Balloon stuffing machine for floral
displays

Barrel seeder

Bypass pruners

Calipers

CD ROMs for ID, etc.
Circle template
Coco moss
Display racks
Drafting materials
Drip irrigation tubing, etc.
Fertilizer proportioners
First aid kit
Flats/trays
Floral wire
Floral wrap
Floral preservatives in packets
Floral pins
Floral scissors/snips
Floral stem cutter-regular
Floral stem cutter-underwater (cutting
flowers such as roses, etc.)
Floral ribbons
Floral tape
Floral design pictures or photos
Foliage plants for ID
Fungicide
Garden trowels
Grafting knives
Graph paper
Hanging baskets
Hedge shears
Herbicides
Horticulture plant leaf ID items
Hose reels
Humidity level indicators
ID tags/stake/labels
Insecticides

Liquid fertilizers
Loppers & Lopping shears
Moisture testers
Oasis blocks

LANDSCAPE MANAGEMENT

Aerator
Blade for tractor
Box scraper
Chain saw
Computers
Edgers
Fertilizer spreaders

pH meter
Pik machine
Plant carts
Plant Hardiness zone maps
Pools for display
Pots-assorted sizes
Propagation chamber, mats
Pruning saws
Pump for displays
Rakes
Reference books
Rooting hormones/compounds
Safety equipments-goggles, clothing,
respirator, gloves
Samples of fertilizers
Samples of soil amendments
Shovels
Slow release fertilizer
Software packages for landscape design
Soil sterilizer
Soil mixers
Soil carts
Soil test equipment
Soil bins
Soil test kit
Spades
Student Books
T-squares
Thermometers
Triangles
Utility carts
Videos
Water hoses
Wheelbarrows
Work tables - 30" x 60" - watch height
(working)

Fogger
Garden rakes
Garden cart
Greens mower
Hand pruner
Hydro seeder
Landscaping software
Laser printer
Leaf rakes
Loppers
Mowers
Nursery hoes
Pick-up
Post-hole digger with 3 size augers
Shovels
Slit seeder
Sod cutter
Software packages for landscape design
Soil rake for tractor
Spades
Spading forks
Sprayers - pump and backpack
Telescoping pole tree pruner
Tractor with front end loader or Bobcat
Trailer
Tree dolly
Trencher (or good rental source)
Weed eater
Wheelbarrows

AG MECHANIZATION

12- 2 cable with ground
12- 3 cable with ground
20 amp breakers
200 amp service entrance panel
3-way switches
30 amp breakers
4-way switches
AC/DC welders
Air compressor and attachments
Airless sprayer
Antifreeze tester

Arc welding tables
Arc welding screens/curtains
Assorted files - flat, round, taper, mill
Back saw
Ball peen hammers
Band saw
Bar clamps
Battery charger
Battery charger
Belt sander
Blacksmith tongs

Bolt cutters
Cable ripper
Capacitor start motor
Chalk/plumb lines
Chisel set
Circuit breaker
Combination single pole switch and receptacle
Compression tester
Concrete tools
Conduit bender
Coping saw
Copper tubing cutter
Copper tubing tools
Crosscut hand saw
Cylinder gauges
Diagonal cutting pliers
Dinner's snips
Drain pans
Drill press
Drill bits
Duplex receptacles
Duplex outlets
Dwell/tach/points tester
Electric motors
Electrical tape
Engine hoist - hydraulic
Engine stands
Face masks
Files
First aid kit
Flat chisels or other types
Float-activated switches
Floor jack
Framing squares
Fuse
Gas welders
GFCI outlet or breaker
GFI's
Ground clips
Hammer drill
Hammers
Hex wrench sets
Hex wrench sets
High speed indicator
Honing stone
Hydraulic/pneumatic teaching aids

Impact wrench
Jack stands
Jointer
Large engines
Levels - 2' and 4'
Locking pliers
Lumber samples
Magnetic switches
Materials storage racks
Measuring wheel
Metal band saw
Micrometer set
MIG welders
Miter gauge
Miter saw (motorized)
Multimeter
Needle nose pliers
Octagon boxes
Outlet covers
Oxyacetylene units
Oxyacetylene cylinder carts
Paint brushes
Paint pads
Paint rollers
Parts cleaner
Pedestal grinder
Pipe cutter
Pipe reamer
Pipe threader
Piston ring expander
Piston ring compressor
Planer
Plasma arc
Pliers
Porcelain lamp holders
Portable drills
Portable circular saw
Portable disc grinder/sander/buffer
Power washer
Pull chain lamp holder
PVC cutter
Radial arm saw
Rasps
Repulsion start - induction run motor
Ripcut hand saw
Router
Rubber tipped or plastic tipped hammer

Sabre saw
Safety glasses/goggles
Sanders
Screwdrivers
Single-pole switches
Small engine stands
Small power tools (cordless)
Small engines (several)
Socket sets
Soldering gun
Spade bits
Spark lighter
Spark tester
Specialized small and large engine tools
Split-phase motor
Staple guns
Switch boxes
Switch covers
Table saw
Tap and die set
Tape measures
Tapes
Test light
Thickness gauges
Three-way switches
TIG welder
Timing light
Tin snips
Tip cleaner
Tire gauge
Tool sets
Torque wrench
Transit & rod
Trickle irrigation system parts
Valve spring compressor
Valve spring lifter
Volt-ohm-milliamperemeter (VOM meter)
Welding helmets
Welding supplies
Welding gloves
Wet/dry vacuum cleaner w/attachments
Wheel & gear puller
Wheel type pipe cutter
Wire ripper
Wire nuts
Wire Strippers
Wood clamps
Work benches
Wrecking bars

NATURAL RESOURCE MANAGEMENT

Biltmore tree sticks
Boating and water safety tools and equipment
Compasses
Diameter tapes
Disease damaged tree pictures
Fishing equipment and fish management equipment
Forestry tools & equipment
Moisture testers
pH test strips
Pictures of game birds
Pictures of wetland areas
Pruning tools
Recycling equipment
Samples of hardwoods & soft woods

Samples of topographic maps
Tree cross-section
Tree insect specimens
Tree planting bar
Tree volume tables
Water quality testing equipment
Weather station equipment
Wedge prism
Wildlife equipment
Wood/Tree samples

FOOD SCIENCE

20, 28, 60 mesh sieves
Active dry yeast
ALS Lab Kit
Aluminum foil
Baking pan
Benedicts solution
Biuret solution
Blender
Butcher's saw
Candle jar
Cheese press
Cotton swabs
Crystal violet stain
Cutting boards
Dehydrator
Dial thermometer
Food coloring

Food Pyramid posters
Food grinder/chopper
Food processor or blender
Freezer paper
Freezer foil
Freezer bags
Gas flame source
Glass rod
Graduated cylinders
Grain grinder
Gram stain
Graph paper
Gray's iodine
Grease pens
Hot plate
Ice cream freezer
Jar labels

Junket tables
Lab aprons
Medicine droppers in milliliters
Mixer
Mixing spoons
Mixing bowls
Non-dairy product samples
Oil immersion microscope
Paper towels
Petri plates
Pipettes
Plastic wrap
Plastic jars & lids
Processed milk samples
Pyrex beakers

Refrigerator and freezer
Rennin
Safety glasses
Smoker
Test tubes and rack
Thermos
Timer
Ultra violet
Lamp
Various agar types
Wax paper
White flour
Wholesale and retail cuts wall chart
Yogurt makers

FARM MANAGEMENT AND/OR AGRIBUSINESS MANAGEMENT

Computers - several
Laser printers
Scanner
Current textbooks
Copy machine
Calculators

Funds for:

Software
Resources related to topic
Extension publications in quantity-Purdue & others-see online items and lists
Vocational Agriculture Services - University of Illinois materials - mailing list
Farm Credit Services materials
John Deere educational materials
Chicago Board of Trade Materials

Internet Sites

<http://www.cbt.com/> – Chicago Board of Trade
<http://www.emarketer.com/> - Data, Research and Analysis on E-business. Online marketing and emerging technologies
<http://www.commerce.com/> - Your search engine for Internet commerce
<http://www.landrights.org/> -American Land Rights Association
<http://www.irs.gov/> -Internal Revenue Service, Dept. Of Treasury
<http://www.cme.com/> - Chicago Mercantile Exchange
<http://www.rma.usda.gov/> -Risk Management Agency / USDA

Internet Search Keywords- international trade, world trade, exports, imports, agribusiness, international agriculture, trade barriers, macroeconomics, microeconomics, information technology, hedging, agriculture risk management.