

PLANT SCIENCE AND LANDSCAPE SYSTEMS

Professors:

G.N. Rhodes (Interim Head), Ph.D. North Carolina State; M.L. Albrecht (Assoc. Dean, College of Agricultural Sciences and Natural Resources), Ph.D. Ohio State; F.L. Allen, Ph.D. Minnesota; E.L. Ashburn, Ph.D. Tennessee (Emeritus); R.M. Augé, Ph.D. Washington State; B.V. Conger, Ph.D. Washington State; G.D. Crater (Emeritus) Ph.D. Ohio State; L.M. Callahan (Emeritus), Ph.D. Rutgers; D.L. Coffey, Ph.D. Purdue; D.E. Deyton, Ph.D. North Carolina State; W.T. Flinchum (Emeritus), Ph.D. North Carolina State; H.A. Fribourg (Emeritus), Ph.D. Iowa State; E.T. Graham (Emeritus), Ph.D.

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Pennsylvania State; C.R. Graves (Emeritus), M.S. Tennessee; R.M. Hayes, Ph.D. Illinois; D.W. Lockwood, Ph.D. Purdue; G.L. McDaniel, Ph.D. Iowa State; J.H. Reynolds (Emeritus), Ph.D. Wisconsin; A.D. Rutledge (Emeritus), Ph.D. Tennessee; T.J. Samples, Ph.D., Oklahoma State; C.E. Sams, Ph.D. Michigan State; D.W. Sams (Emeritus), Ph.D. Minnesota; P.P. Shelby (Emeritus), M.S. Tennessee; C.N. Stewart, Ph.D. (Racheff Chair) Virginia Tech; D.R. West, Ph.D. Nebraska; D.B. Williams (Emeritus), Ph.D. Pennsylvania State.

Associate Professors:

G.E. Bates, Ph.D. Georgia; Z.-M. (Max) Cheng, Ph.D. Cornell; C.O. Gwathmay, Ph.D. U.C. Davis; W.A. Krueger (Emeritus), Ph.D. Illinois; S.L. Hamilton, Ed.D. Tennessee; G. L. Menendez, M.S. Tennessee; T.C. Mueller, Ph.D. Georgia; D.K. Robinson, Ph.D. North Carolina State; S.M. Rogers, M.L.A. Georgia; J.E. Wyatt, Ph.D. Florida.

Assistant Professors:

S. Garton, Ph.D. Minnesota; W. E. Klingeman, Ph.D. Georgia; G.D. Morgan, Ph.D. Wisconsin; V.R. Pantalone, Ph.D. North Carolina State; J. Sorochon, Ph.D. Michigan State; A.R. Straw, Ph.D. Tennessee.

Advisors:

Coffey, Hamilton, McDaniel, Menendez, Morgan, Sams, and Sorochon.

The Department of Plant Sciences and Landscape Systems (PSLS) of the University of Tennessee provides quality academic instruction to undergraduate and graduate students.

Experienced instructors who are committed to the success of their students staff the department. Advisors give students sound advice in the selection of career specialties, elective courses, and provide students the best education possible. Professors want their students to be successful and enjoy positive student-teacher relationships. They keep track of job openings and assist students during the job selection process. Since most PSLS teachers are also research scientists, undergraduate students interested in advanced studies are directed into appropriate courses necessary for admission to

graduate school. Students are also encouraged to work with faculty researchers in a variety of laboratory, greenhouse, or field experiments.

The department offers a major leading to a Bachelor of Science degree in Plant Sciences and Landscape Systems with five concentrations: Business Management, Horticulture and Agronomy, Landscape Design, Public Horticulture, and Turfgrass Management.

Each concentration offers a different approach to address the breadth of opportunities available to PLS undergraduate students. A minimum of 124 credit hours including internship is required for each concentration. Fulltime summer internships are available at selected local, regional, and national companies or institutions. Part-time summer or semester internships are available from PLS, other university departments and laboratories and local commercial firms. For more information about undergraduate and other departmental programs, please contact our web site at: <http://ohld.ag.utk.edu/pls/>

CAREER SPECIALITIES

Students in the Landscape Design and the Public Horticulture concentrations have various career paths open to them. Opportunities exist within landscape construction and maintenance (installation and maintenance of residential and commercial landscapes), landscape design (creation of aesthetic concepts and practical plans for improved outdoor areas), and public horticulture (the promotion of horticulture to enhance people's education and enjoyment of plants). Students select courses to meet the challenges of the different areas of ornamental horticulture by working closely with their academic advisers. Internships at various horticultural enterprises provide students the opportunity to put theory into practice and screen possible job options. Positions that graduates hold are numerous and include the following: owners, supervisors and employees of landscape construction; design and/or maintenance businesses for residential, recreational and commercial properties; owners, designers, salespersons or managers with interiorscape firms; directors, curators, public relations managers, education program director, high school or college teachers and employees of botanic gardens and arboreta; federal, state, county, city and municipal horticulturists; county extension workers in horticulture; estate manager; arborists and employees of tree care firms; and garden writers. A percentage of undergraduate students go on to graduate studies.

The Business Management and Turfgrass Management concentrations reflect the various other career paths open to graduates.

Opportunities exist within floriculture (the field of growing and marketing flowers and plants), turfgrass management (growing and managing turfgrasses used for golf courses, parks, athletic fields, and residential and commercial lawns), wholesale nursery production (the production of trees, shrubs and other woody ornamental plants used by the landscape industry

or sold through retail outlets), retail horticulture (the marketing; merchandising and sale of vegetables, fruit, or ornamental plants and gardening accessories directed to the consumer), and agronomic crops production and consulting.

Positions that graduates hold are numerous and include the following: owner, manager, salesperson or employee of garden centers, farm supply, or other retail outlets; golf course superintendents and assistant superintendents; sales positions with turfgrass equipment firms, supply firms, chemical companies and seed companies; owners, supervisors or growers of turfgrass sod, nursery or floral crop operations, and agronomic and field-produced horticultural crops.

The Horticulture and Agronomy concentration provides a solid background in science while preparing students to apply this knowledge. The graduate must have knowledge of the basic chemical, physical and biological sciences and be educated in communication and computer skills. The student may be broadly trained or may specialize in a specific phase of the subject. This concentration is especially designed to qualify students for professional certification and to prepare students for graduate study. Through the appropriate selection of major course and technical electives, students can qualify for certification as a crop scientist, agronomist, or horticulturist. Students can also prepare themselves for graduate study in crop ecology and physiology, crop breeding and genetics, and weed science. Careful selection of departmental courses and related courses as well as electives in consultation with the student's academic adviser will prepare graduates for a career of their choice in the Plant Science area, whether it be Agronomic or Horticultural in nature.

A minor in Integrated Plant Systems

shall consist of 18 hours of courses in Plant Sciences and Landscape Systems including IPS 230, IPS 334, and a minimum of 12 credit hours at the upper division. Prerequisites, if any, to these courses will not be waived, but must be included in addition to the total of 18 hours. PSLS 471 will not be accepted as a course to meet minor requirements.

A minor in Ornamental Horticulture and Landscape Design

shall consist of 18 hours of courses in Ornamental Horticulture and Landscape Design: OHLD 110, Introduction to Ornamental Horticulture and one additional lower division course, and a minimum of 12 credit hours at the upper division. Prerequisites, if any, to these courses will not be waived, but must be included in addition to the total of 18 hours.

ENROLLMENT MANAGEMENT PLAN

All students in the Department of Plant Sciences and Landscape Systems must meet certain minimum requirements before registering for upper division PSLS, OHLD, or IPS classes. Admittance to each of the departmental concentrations will be determined by completion of core courses with a "C" or better for an individual concentration, completion

of a minimum of 65 credit hours toward the degree, and a minimum cumulative grade point average (GPA) of 2.25.

To be considered for progression into the upper division of the program, majors must submit an application of intent for progression prior to class registration for the next semester. Their transcript will be reviewed by faculty members for completion of all core courses and meeting the minimum GPA. Students must have completed all but 3 core courses for their concentration by the end of the semester in which they apply for acceptance into upper division courses. They must complete all core courses before entering upper division courses. They will also need the prerequisites to these individual upper division courses.

Once admitted for progression to upper division programs, students must maintain a cumulative GPA of 2.25. Junior and senior majors in PSLS whose cumulative GPA falls below the minimum of 2.25 will not be allowed to register in departmental upper division classes until they again meet the required GPA for progression. This enrollment management plan becomes effective for all students enrolling in PSLS on or after Fall semester 2001.

CORE COURSES

Majors must have completed the core courses for their respective PSLS concentration. Students must declare a concentration early in their undergraduate program and strictly follow the curriculum described for it. Students who transfer into PSLS from other colleges or programs must meet the same requirements as those entering the department as freshmen. The core courses for the PSLS concentrations are:

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Business Management Concentration:

two courses in English composition (English 101 and 102 or equivalent); college algebra and calculus (Math 119 and 125 or equivalent); general chemistry (Chemistry 100-110 or 120-130 or equivalent); general botany (Botany 110 and 120 or equivalent); general accounting (Accounting 201 and 202 or equivalent); soil science (ESS 210 or equivalent).

Horticulture and Agronomy Concentration:

two courses in English composition (English 101 and 102 or equivalent); college algebra and either precalculus or calculus (Math 119 and 125 or 130) or completion of Math 151 and 152 or equivalent; general chemistry (Chemistry 100-110 or 120-130 or equivalent); general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); crop science (IPS 230 or equivalent).

Landscape Design: two courses in English composition (English 101 and 102 or equivalent); college algebra and finite math or calculus (Math 119 and 123 or 125 or equivalent); general chemistry (Chemistry 100 or 120 or equivalent) and one natural science elective; general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); basic landscape plants (OHLD 220 or equivalent); landscape design (OHLD

280 or equivalent).

Public Horticulture Concentration: two courses in English composition (English 101 and 102 or equivalent); college algebra and finite math or calculus (Math 119 and 123 or 125 or equivalent); general chemistry (Chemistry 100 or 120 or equivalent) and one natural science elective; general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); general ecology (Biology 250 or equivalent); basic landscape plants (OHL 220 or equivalent).

Turfgrass Management Concentration: two courses in English composition (English 101 and 102 or equivalent); college algebra and finite math or calculus (Math 119 and 123 or 125 or equivalent); general chemistry (Chemistry 100-110 or 120-130 or equivalent); general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); basic landscape plants (OHL 220 or equivalent); microcomputer applications (ANR 290 or equivalent).

BUSINESS MANAGEMENT CONCENTRATION

The Business Management Concentration is fundamental to those interested in starting their own companies. Students receive a **minor in either Business Administration or Agricultural Economics and Business** allowing easier access to management positions as well as graduate programs such as the Master of Business Administration (MBA) should they want to continue their education in the future.

Hours Credit

Freshman

Botany 110-120	8
Chemistry 100-110 or 120-130	8
English 101-102	6
Math 119 and 125	6
OHL 110 or IPS 230	3
† Humanities Elective	3

Sophomore

Select 2 from OHL 220, 230, 231, or 280	5-6
Agriculture and Natural Resources 290	3
Accounting 201-202	5
Economics 201	4
Environmental and Soil Sciences 210	4
Speech 210 or 240	3
Select Statistics 201 for Business Minor or Agricultural Economics 212 for Agricultural Economics Minor	3
† History Elective	3

Junior

Select 3 from OHL 326, 330, 350, 360, 370, 380, 390, 391, IPS 334, or 340	8-9
PSLS 492	3
Select Business Administration 201 and Management 300 for Business Minor or Agricultural Economics 342 and 350 for Agricultural Economics Minor	6-7
Select 2 from Technical Electives	6
† History Elective	3
† Humanities Elective	3

Senior

Select 3 from OHL 410, 421, 429, 430, 434, 436, 446, 450, 451, 460, 480, 485, 494, IPS 431, 433, 434, 435, 440, PSLS 471, 493	5-13
PSLS 490	1
Select Finance 301 and Marketing 300 for Business Minor or Agricultural Economics 412 and an Agricultural Economics elective for	

Agricultural Economics Minor	6
Writing Elective	3
·Social Science Elective	3
Unrestricted Electives	3-11

Total: 124 hours

·Lists of appropriate electives are available and should be selected in conference with academic advisor.

HORTICULTURE AND AGRONOMY CONCENTRATION

The Horticulture and Agronomy Concentration is designed for the student desiring to pursue professions that include graduate studies, research and commercial production of agronomic and horticultural crops. Careful selection of departmental courses and other electives in consultation with your academic adviser will prepare graduates for the career of their choice. The concentration consists of two tracks of study: (1) Emphasis in agronomy and (2) Emphasis in horticulture.

Hours Credit

Freshman

Botany 110-120	8
Chemistry 100-110 or 120-130	8
English 101-102	6
Math 119 and (125 or 130) or Math 151-152 for agronomy track or Math 119 and (123 or 125) for horticulture track	6
Select IPS 230 for agronomy track or OHL 110 for horticulture track	3

Sophomore

Select Microbiology 210 and Biology 240 for agronomy track or select 1 from OHL 220, 230, 231, or 280 and select 1 from Microbiology 210 or Biology 240 for horticulture track	6
Agriculture and Natural Resources 290	3
Writing Elective	3
·Humanities Elective	3
·Social Science Elective	3
Environmental and Soil Sciences 210	4
Speech 210 or 240	3
Economics 201	4
·History Elective	3

Junior

OHL 330	3
Select IPS 334 for agronomy track or select OHL 370 for horticulture track	3
Select 2 from OHL 370, 390, 391, or IPS 340 for agronomy track or select 2 from OHL 350, 360, 390, 391, IPS 334 or 340 for horticulture track	6
PSLS 492	3
Environmental and Soil Sciences 334	3
Select Environmental and Soil Sciences 462 for agronomy track or select Botany 330 for horticulture track	3
Entomology and Plant Pathology 313, 321, or 410	3
Technical Elective	3-4
·History Elective	3

Senior

PSLS 471	3
PSLS 490	1
Botany 321	4
Chemistry 350	4
Technical Elective	3-4
Select IPS 431, 434, 435, and 453 for agronomy track or select 4 from OHL 410, 430, 451, IPS 431, 433, 434, 440 or 453 for horticulture track	12
·Humanities Elective	3

Total: 124 hours

† Lists of appropriate electives are available and should be selected in conference with academic advisor.

LANDSCAPE DESIGN CONCENTRATION

Landscape designers create aesthetic concepts and practical plans for improved outdoor living. Students study fundamental and advanced landscape design, landscape design graphics, computer aided landscape design, surveying, art, socio-economic impact of plants, field botany, professional practices, basic woody plant identification, landscape construction and maintenance methods. The development of comprehensive design projects helps students prepare for careers in landscape design or advanced studies in landscape architecture. Graduates in design have access to a large segment of the ornamental horticulture commodity areas of employment.

Hours Credit

Freshman

Botany 110-120	8
Chemistry 100 or 120	4
English 101-102	6
Math 119 and (123 or 125)	6
OHLD 110	3
† Social Science Elective	3

Sophomore

OHLD 220, 280	6
Agriculture and Natural Resources 290	3
† Natural Science Elective	4
Environmental/Technical Elective	3
Environmental and Soil Sciences 210	4
Speech 210 or 240	3
† Humanities Elective	3
Unrestricted Electives	6

Junior

OHLD 350, 380	6
Select 2 from OHLD 225, 230, 231, 330, 370, IPS 334, or 340	5-6
Select 1 from OHLD 390 or 391	3
Environmental/Technical Elective	3
Writing Elective	3
† History Elective	3
† Social Science Elective	3
Unrestricted Elective	4-5

Senior

OHLD 460, 480, 485	9
Select 2 from OHLD 410, 427, 430, 434, 446, 450, 494, IPS 440 or PSLs 493	6
PSLS 490, 492	4
Botany 330 or OHLD 421	3
Environmental/Technical Elective	3
† History Elective	3
† Humanities Elective	3

Total: 124 hours

† Lists of appropriate electives are available and should be selected in conference with academic advisor.

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PUBLIC HORTICULTURE CONCENTRATION

The public horticulture concentration is intended for students interested in professional careers which promote horticulture and emphasize people and their education and enjoyment of plants. Such careers include director

of a botanical garden or park; city or urban horticulturist; extension agent, teacher, educational director, or program coordinator; professional garden writer/editor or publication manager; horticulture therapist; public garden curator; and plant collections manager.

Directed technical electives allow the student to concentrate in an area of their interest while encouraging the development of good people skills. Students are required internship training in the area of their interest.

Hours Credit

Freshman

Botany 110-120	8
Chemistry 100 or 120	4
English 101-102	6
Math 119 and (123 or 125)	6
OHLD 110	3
† Natural Science Elective	4

Sophomore

Select 2 from OHLD 220, 225, 230, 231 or 280	5-6
Agriculture and Natural Resources 290	3
Select 1 from Educational Psychology 210; Public Relations 270; Recreational and Tourism Management 201; Forestry Wildlife and Fisheries 211, or 250	3
† Social Science Elective	3-4
Environmental and Soil Sciences 210	4
Speech 210 or 240	3
† Humanities Elective	3
† History Elective	3

Junior

Select 4 from OHLD 330, 350, 360, 370, 380, 390, 391, IPS 334 or 340	11-12
OHLD 326	3
Select 1 from Philosophy 342, Agriculture and Extension Education 346, or Journalism 310	3
Select 2 from Botany 309, 330; Entomology and Plant Pathology 313, 321, 410	6
Select 2 from Technical Electives	6

Senior

Select 4 from OHLD 410, 421, 427, 429, 430,434, 436, 446, 450, 451, 460, 480,485, 494, IPS 431, 433, 434, 435, 440, or PSLs 493	8-12
PSLS 490	1
PSLS 492	3
† Social Science Elective	3
Writing Elective	3
† History Elective	3
Select 2 from Technical Electives	6

Total: 124 hours

† Lists of appropriate electives are available and should be selected in conference with academic advisor.

TURFGRASS MANAGEMENT CONCENTRATION

The Turfgrass Management Concentration is designed for the student desiring to pursue professions that include growing and managing turfgrasses used for golf courses, parks, athletic fields, sports complexes, and residential and commercial lawns. Careful selection of departmental courses and other electives in consultation with your academic adviser will prepare graduates for the career of their choice.

Hours Credit

Freshman

Botany 110-120	8
Chemistry 100-110 or 120-130	8
English 101-102	6
Math 119 and (123 or 125)	6
OHLD 110 or IPS 230	3
† Social Science Elective	3

Sophomore

Select 1 from OHLD 220, 225, 230, 231, or 280 2-3
 Agriculture and Natural Resources 290 3
 Writing Elective 3
 Humanities Elective 3
 Social Science Elective 4
 Environmental and Soil Sciences 210 4
 Speech 210 or 240 3
 History Elective 3
 Unrestricted Elective 3

Junior

IPS 340 3
 OHLD 370 3
 IPS 334 3
 Select 3 from OHLD 330, 350, 360, 390, or 391 8-9
 PSLs 492 3
 Select 2 from Technical Electives 6
 History Elective 3

Senior

Select 4 from OHLD 410, 421, 430, 450, 451, 460, 494; IPS 431, 433, 434, 435, 453, PSLs 471, 493 5-12
 IPS 440 4
 PSLs 490 1
 Select 2 from Technical Electives 6
 Botany 321 4
 Humanities Elective 3
 Unrestricted Electives 2-9

Total: 124 hours

Lists of appropriate electives are available and should be selected in conference with academic advisor.

ADDITIONAL ELECTIVES LIST:

BUSINESS MANAGEMENT CONCENTRATION

Technical Electives:

Biosystems Engineering Tech. 202, 212, 452, 462
 Environmental and Soil Sciences 324, 334, 462
 Entomology and Plant Pathology 313, 321, 410

HORTICULTURE AND AGRONOMY CONCENTRATION

Technical Electives: Agronomy Tract

Agricultural Economics Elective
 Biosystems Engineering Tech. 212, 452, 462
 Botany 310, 330
 Environmental and Soil Sciences 324, 355, 434, 442, 444
 Forestry, Wildlife, and Fisheries 250

Technical Electives: Horticulture Tract

Agricultural Economics Elective
 Biosystems Engineering Technology 212, 452, 462
 Botany 310, 412, 431, 451
 Forestry, Wildlife, and Fisheries 250

LANDSCAPE DESIGN CONCENTRATION

Environmental/Technical Electives:

Architecture 111, 180, 211, 232, 421
 Art 101, 103, 191, 295
 Art Drawing 211, 212
 Biology 250
 Biosystems Engineering Technology 202, 212
 Botany 305, 306, 330, 431
 Entomology and Plant Pathology 306, 313, 321, 410
 Environmental and Soil Sciences 324, 334
 Forestry, Wildlife, and Fisheries 211,

250

Geology 201, 202

Geography 310, 439

Urban and Regional Planning 401, 402

**PUBLIC HORTICULTURE
CONCENTRATION**

Technical Electives:

Accounting 415

Art 481

Botany 431

Educational Psychology 210

Forestry 423

Interior Design 200

Philosophy 342

Environmental and Soil Sciences 413,

414, 415

Public Health 410

Public Relations 470

Recreation and Tourism Management

410, 430

Speech 440

**PUBLIC HORTICULTURE AND LANDSCAPE
DESIGN CONCENTRATIONS**

Natural Science Electives:

Chemistry 110, 130

Geography 131

Geology 101, 103

TURFGRASS MANAGEMENT

CONCENTRATION

Technical Electives:

Agricultural Economics elective (3)

Biosystems Engineering Tech. 202,

212, 452, 462

Environmental and Soil Sciences 310,

311, 315, 432

Entomology and Plant Pathology 313,

321, 410

Engineering 243 and Math 142