

Department of Plant, Soil, and Insect Sciences: Concentration Requirements

Horticulture

I. Core Requirements of the Major

A. Biological Science

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|--|--------------|-------|
| <input type="checkbox"/> Botany | PLSOILIN 102 | 4 cr. |
| <input type="checkbox"/> Soil Science (BS) | PLSOILIN 105 | 4 cr. |

B. Ecosystems Studies – select **one** of the following courses 3 cr.

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|---|--------------|
| <input type="checkbox"/> Intro Environmental Biology (BS) | ENVIRSCI 101 |
| <input type="checkbox"/> Plants, Soils and the Environment (SI) | PLSOILIN 115 |
| <input type="checkbox"/> Principles of Environmental Biology | ENVIRSCI 214 |
| <input type="checkbox"/> Society and Environment (SI) | NRC 100 |
| <input type="checkbox"/> Introductory Ecology | BIOLOGY 287 |

C. Math, Statistics and Reasoning

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|---|----------------|---------|
| <input type="checkbox"/> Algebra/Anal. Geom/Trig (R1) | MATH 104 | 3-4 cr. |
| or Pre-CalcAlgebra/Anal. Geom/Trig | MATH 101/102 | |
| <input type="checkbox"/> Statistics (R2) | RES-ECON 211 | 3 cr. |
| or Elementary Statistics | STATISTICS 111 | |
| or Intro to Statistics | STATISTICS 240 | |

D. Chemistry

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|---|------------------------|-------|
| <input type="checkbox"/> General Chemistry (PS) | CHEM 110 or 111 | 4 cr. |
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- (Note: students selecting 'Science Focus' should complete CHEM 111)

E. Junior Year Writing

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| <input type="checkbox"/> Technical Writing | PLSOILIN 380 | 3 cr. |
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TOTAL CORE **24 – 25 cr.**

II. Concentration Specific Requirements

A. Required Department Courses

1. Select **two** horticulture courses

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| <input type="checkbox"/> Plant Propagation | PLSOILIN 200 | 3 cr. |
| <input type="checkbox"/> Intro Turf Mgt | PLSOILIN 230 | 3 cr. |
| <input type="checkbox"/> Greenhouse Management | PLSOILIN 315 | 4 cr. |
| <input type="checkbox"/> Advanced Turf Mgt | PLSOILIN 340 | 3 cr. |

2. Plant Physiology

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|---|---------------|-------|
| <input type="checkbox"/> Intro Plant Physiology | PLSOILIN 397P | 3 cr. |
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3. Plant Nutrition

Select **one** course

<input type="checkbox"/> Plant Nutrition	PLNTSOIL 530	4 cr.
<input type="checkbox"/> Soil Fertility	PLNTSOIL 580	3 cr.

4. Pest Management

Select General Plant Pathology and at least 3 cr. in Entomology.

<input type="checkbox"/> General Plant Pathology	PLNTSOIL 505	4 cr.
<input type="checkbox"/> Insects & Related Forms	PLSOILIN 101	2 cr.
or Insects of Ornamentals	PLSOILIN 109	3 cr.
or Insect Biology	PLSOILIN 326	3 cr.
or Pest Mgt. Greenhouse Crops	PLSOILIN 397F	2 cr.
or Insect Ecology and Mgt.	PLSOILIN 397K	3 cr.
and/or Turf Insects	PLSOILIN 107	2 cr.

B. Restricted Electives (15 cr.)

Students in the Horticulture Concentration must select at least 15 credits from those listed below. Of the 15 credits, 6 must be at or above the 500 level, and no more than 6 can be taken outside the Department. The courses are listed in specialty areas for guidance, but students are not required to take Restricted Electives from any one area. Credits taken to satisfy concentration requirements in other areas of the Core and for other Concentration Requirements cannot be counted as Restricted Electives.

Turf

Intro Turf Mgt	PLSOILIN 230	3 cr.
Irrigation & Drainage	PLSOILIN 234	2 cr.
Turf Calculations	PLSOILIN 240	2 cr.
Turfgrass Physiology & Ecology	PLSOILIN 275	3 cr.
Weed Mgt	PLSOILIN 310	3 cr.

Commercial Floriculture & Garden Center Management

Herbaceous Plants	PLSOILIN 255	3 cr.
Greenhouse Management	PLSOILIN 315	4 cr.
Greenhouse Crop Prod. I	PLSOILIN 321	3 cr.
Greenhouse Crop Prod II	PLSOILIN 335	4 cr.
Plants in Landscape I	ENVIRDES 335	4 cr.
New England Flora	BIOLOGY 426	3 cr.

Landscape Horticulture & Nursery Management

Herbaceous Plants	PLSOILIN 255	3 cr.
Weed Mgt	PLSOILIN 310	3 cr.
Nursery Mgt.	PLSOILIN 360	4 cr.
Plants in Landscape I	ENVIRDES 335	4 cr.
Principles of Arboriculture	FOREST 332	3 cr.
New England Flora	BIOLOGY 426	3 cr.

Food Crops

Deciduous Orch Sci	PLSOILIN 300	3 cr.
Small Fruit Production	PLSOILIN 305	3 cr.
Weed Mgt	PLSOILIN 310	3 cr.
Vegetable Crop Production	PLSOILIN 325	4 cr.
Soil & Crop Management	PLSOILIN 350	3 cr.

Breeding and Propagation

Plant Propagation	PLSOILIN 200	3 cr.
Genetics	BIOLOGY 283	3 cr.
Tissue Culture	PLNTSOIL 500	3 cr.
Plant Breeding	PLNTSOIL 540	3 cr.
Plant Biotechnology	PLNTSOIL 597G	3 cr.

Crop Physiology

Plant Physiology	BIOLOGY 510	3 cr.
Physiology of Crop Yield	PLNTSOIL 520	3 cr.
Post-harvest Physiology	PLNTSOIL 545	4 cr.
Plant Growth Regulators	PLNTSOIL 550	3 cr.
Plant Stress Physiology	PLNTSOIL 590A	3 cr.

Plant Nutrition and Soils

Microbiology of the Soil	PLNTSOIL 515	3 cr.
Plant Nutrition	PLNTSOIL 530	4 cr.
Soil Formation & Classification	PLNTSOIL 565	4 cr.
Soil Physics	PLNTSOIL 570	3 cr.
Environmental Soil Chemistry	PLNTSOIL 575	4 cr.
Soil Fertility	PLNTSOIL 580	3 cr.

Pest Management

Turf Insects	PLSOILIN 107	2 cr.
Insects of Ornamentals	PLSOILIN 109	3 cr.
Greenhouse IPM	PLSOILIN 397F	2 cr.
Insect Ecology & Mgt.	PLSOILIN 397K	3 cr.
Mgmt. and Ecology of Plant Diseases	PLNTSOIL 510	3 cr.
Biological Control	ENTOMOL 523	3 cr.
Diagnostic Plant Pathology	PLNTSOIL 535	4 cr.
Urban Environment & Plant Growth	PLNTSOIL 555	3 cr.
Weed Science	PLNTSOIL 560	3 cr.
Forest & Shade Tree Entomology	ENTOMOL 572	3 cr.
Integrated Pest Management	ENTOMOL 581	4 cr.
Phyto/bioremediation	PLNTSOIL 597A	3 cr.
Integrated Turf Management	PLNTSOIL 597V	3 cr.

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C. Focus in Science or Business

A focus area is not a formal designation in the University, but students in Horticulture must complete a focus area of either Science or Business.

1. Science

Students completing the Science Focus must select four courses in science, one from each of the four categories (A through D) listed below.

A. □ General Chemistry II (PS)	CHEM 112	4 cr.
B. □ Organic Chemistry	CHEM 250	
or Organic Chemistry I	CHEM 261	
or Cell & Molecular Bio	BIOCHEM 285	3 cr.
C. □ General Biology	BIOLOGY 100	
or Plant Biology	BIOLOGY 103	4 cr.
D. □ Calculus I	MATH 127 or 131	3 cr.
<i>Total credits for Science Focus</i>		(14 cr.)

2. Business

Students completing the Business Focus must select **four** courses in business. These should be distributed across four of the five categories (A through E) listed below.

A. □ Business Mgt.	MANAGMNT 301	3 cr.
B. □ Personnel Mgt.	MANAGMNT 314	
or People in Orgs.	RESECON 142	3 cr.
C. □ Marketing	MARKETNG 301	
or Marketing for Green Industries	PLSOILIN 397M	
or Intro Food Marketing	RESECON 241	3 cr.
D. □ Small Business Finance	RESECON 324	
or Accounting I	ACCOUNTG 221	3 cr.
E. □ Intro. Resource Econ. (SB)	RESECON 102	
or Microeconomics	ECON 103	
or Macroeconomics	ECON 104	3 cr.
<i>Total credits for Business Focus</i>		(12 cr.)

Total for Concentration Specific Requirements **47 - 50 cr.**

Total for the Horticulture Concentration **71 - 75 cr.**