

B.S. in Horticulture at Oregon State University – Curriculum

Name: _____

ID: _____

Entering Status: _____

Option: **Sustainable Horticultural Production**

Term Entering: _____

From: _____

University Core Requirements:

(No single course can satisfy more than one core area)

Writing/Health

_____ WR 121 – English Composition (3) *(Minimum passing grade of C–)*

_____ WR II (3)

_____ COMM (3)

_____ Writing Intensive (HORT 318) (3)

_____ HHS 231 – Lifetime Fitness for Health (2)

_____ HHS 24_ – Lifetime Fitness or PAC (1)

_____ Foreign Language (if deficient; waived for pre-1997 HS graduates)

Perspectives

(No more than 2 courses in one department)

_____ Cultural Diversity _____

_____ Literature/Arts _____

_____ Social Processes _____

_____ Western Culture _____

_____ Difference, Power, Dis. _____

_____ Biological Science *(Met by major requirements)*

_____ Physical Science *(Met by major requirements)*

_____ Phys. or Biol. Science *(Met by major requirements)*

Math

_____ MTH 105, 111, 112, 211, 241, 245, or 251 (4) *(Met by major requirements)*

(Students must receive a grade of C-, or higher, to continue on to the next math course)

Synthesis/Upper Division – choose from provided list

(Each course from a different department)

_____ Contemp. Global Issues (3) _____

_____ Science, Technology, Society (3) _____

Major Core:

General Science

_____ MTH 112, MTH 241, MTH 245, MTH 251, or ST 351 (4)

(Prereq of C- or higher in MTH 111, or in MTH 112 if taking MTH 251)

_____ CH 121 – General Chemistry (5) or CH 231 – General Chemistry (4)
and CH 261 – Laboratory for Chemistry 231 (1)

_____ CH 122 – General Chemistry (5) or CH 232 – General Chemistry (4)
and CH 262 – Laboratory for Chemistry 232 (1)

_____ CH 123 – General Chemistry (5) or CH 233 – General Chemistry (4)
and CH 263 – Laboratory for Chemistry 233 (1)

(Students must receive a grade of C-, or higher, to continue on to the next chemistry course in the series)

_____ BI 211 or 221 – Principles of Biology (4)

_____ BI 212 or 222 – Principles of Biology (4)

_____ BI 213 or 223 – Principles of Biology (4)

or the alternative BI 204–206 series:

_____ BI 204 – Introductory Biology I (4)

_____ BI 205 – Introductory Biology II (4)

_____ BI 206 – Introductory Biology III (4)

Agricultural Science

_____ BOT 331 – Plant Physiology (4)

_____ BOT 350 – Introductory Plant Pathology (4)

_____ CROP 440 – Weed Management (4)

_____ ENT 311 – Introduction to Insect Pest Management (4)

_____ SOIL 205 – Soil Science (3) & SOIL 206 – Lab (1)

OR CSS 205 – Soil Science (4)

Orientation

_____ HORT 112 – Introduction to Horticultural Systems, Practices, & Careers (2)

Horticultural Science

_____ HORT 301 – Growth and Development of Horticultural Crops (3)

_____ HORT 311 – Plant Propagation (4)

_____ HORT 316 – Plant Nutrition (4)

Experiential Learning

_____ HORT 403 or 410 – Thesis/Internship (6-12)

_____ HORT 412 – Career Exploration: Internships & Research Projects (1)

Option Requirements

Plant Materials

(Select 2 of the following courses)

_____ BOT 313 – Plant Structure (4)

_____ BOT 321 – Plant Systematics (4)

_____ BOT 323 – Flowering Plants of the World (3)

_____ BOT 425 – Flora of the Pacific Northwest (3)

_____ CROP 200 – Crop Ecology & Morphology (3)

_____ FES 241 – Dendrology (3)

_____ HORT 226 – Landscape Plant Materials I (4)

_____ HORT 228 – Landscape Plant Materials II (4)

_____ HORT 251 – Temperate Tree Fruit, Berries, Grapes, and Nuts (2) *alt. year*

_____ HORT 255 – Herbaceous Ornamental Plant Materials (3)

_____ HORT 433 – Systematics & Adaptation of Vegetable Crops (4)

Ecology

_____ HORT 318 – Applied Ecology of Managed Ecosystems (3)

Technology

_____ HORT 414 – Precision Agriculture (4)

Horticultural Communication

_____ HORT 318 – Applied Ecology of Managed Ecosystems (3) (WIC)

_____ HORT 407 – Seminar (1)

_____ HORT 411 – Horticulture Book Club (1)

Capstone

_____ HORT 481 – Horticulture Production Case Studies (4)

Horticultural Production

_____ HORT 300 – Crop Production in Pacific Northwest Agroecosystems (4)

_____ HORT 360 – Irrigation/Drainage (4)

_____ PBG 430 – Plant Genetics (3)

(Select 1 of the following courses)

_____ HORT 260 – Organic Farming/Gardening (3)

_____ HORT 351 – Floriculture & Greenhouse Systems (4) *alt. year*

_____ HORT 361 – Plant Nursery Systems (4) *alt. year*

_____ HORT 451 – Tree Fruit Physiology and Culture (4)

_____ HORT 452 – Berry & Grape Physiology & Culture (4) *alt. year*

_____ HORT 453 – Grapevine Growth & Physiology (3)

_____ HORT 454 – Principles & Practices Vineyard Prod. (3)

_____ HORT 456 – Physiology & Production of Berry Crops (4)

Horticultural Electives

(Select a minimum of 9 credits from the above list or from the following list)

_____ CROP 280 – Introduction to Complexity of Oregon Cropping Systems (4)

_____ SUS 325 – Ag. & Envir. Predicaments: Case Study Approach (3)

_____ ENT 322 – Honey Bee Biology & Beekeeping (3)

_____ HORT 199, 299, 399, 499 – Special Topics (1-16)

_____ HORT 285 – Permaculture Design & Theory: Certificate Course (4)

_____ HORT 314 – Principles of Turfgrass Maintenance (4)

_____ HORT 444 – Insect Agroecology (3)

_____ HORT 421 – Herbs, Spices & Medicinal Plants (3)

_____ HORT 463 – Seed Biology (3) *alt. year*

_____ HORT 480 – Case Studies in Cropping Systems Management (4)

_____ HORT 485 – Adv. Permaculture Design Tools for Climate Resilience (3)

_____ HORT 499 – Intro. to Organic Certification (3)

_____ PBG 441 – Plant Tissue Culture (4)

_____ PBG 450 – Plant Breeding (4)

_____ SOIL 316 – Nutrient Cycling in Agroecosystems (4)

_____ SOIL 399 – Soil Management for Organic Production (3)

_____ SOIL 455 – Biology of Soil Ecosystems (4)

Business Management

(Select 1 of the following courses)

- _____ AEC 211 – Agricultural and Food Management (4)
- _____ AEC 221 – Agricultural and Food Marketing (3)
- _____ *AEC 250 – Introduction to Environmental Economics & Policy (3)
- _____ *AEC 251 – Introduction to Agricultural & Food Economics (3)
- _____ BA 215 – Fundamentals of Accounting (BA 315 – Account. Dec. Mknng.) (4)
- _____ BA 260 – Introduction to Entrepreneurship (4)
- _____ BA 365 – Family Business Management (4)
- _____ NMC 311 – Introduction to Nonprofit Management (3)

Government and Policy

(Select 1 of the following courses)

- _____ *AEC 243 – Global Poverty and Sustainable Development (3)
- _____ *AEC 250 – Introduction to Environmental Economics and Policy (3)
- _____ *AEC 251 – Introduction to Agricultural & Food Economics (3)
- _____ *AEC 253 – Environmental Law, Policy & Economics (4)
- _____ *AEC 351 – Natural Resource Economics and Policy (3)
- _____ *AGRI 411 – Introduction to Food Systems: Local to Global (3)
- _____ NR 201 – Managing Natural Resources for the Future (3)
- _____ NR 202 – Natural Resource Problems and Solutions (3)
- _____ NR 312 – Critical Thinking for Natural Resource Challenges (3)
- _____ NR 325 – Scientific Methods for Analyzing Natural Resource Problems (3)
- _____ *PS 201 – Introduction to US Government and Politics (4)
- _____ *PS 205 – Introduction to International Relations (4)
- _____ *PS 331 – State and Local Politics (4)
- _____ *PS 458 – International Political Economy (4)
- _____ PS 461 – Environmental Political Theory (4)
- _____ PS 470 – Global Food Politics and Policy (4)
- _____ PS 473 – U.S. Energy Policy (4)
- _____ PS 475 – Environmental Politics and Policy (4)
- _____ *PS 476 – Science and Politics (4)
- _____ PS 477 – International Environmental Politics and Policy (4)
- _____ PS 478 – Renewable Energy Policy (4)
- _____ *SUS 304 – Sustainability Assessment (4)
- _____ *SUS 350 – Sustainable Communities (4)

Ecology & Sustainability Ecosystems Courses (*Meets Synthesis Requirements*)

(Each course must be from a different department)

Contemporary Global Issues

(Select 1 of the following courses)

- _____ *AEC 351 – Natural Resource Economics & Policy (3)
- _____ *AEC 352 – Environmental Economics and Policy (3)
- _____ *BI 301 – Human Impacts on Ecosystems (3)
- _____ *CROP 330 – World Food Crops (3)
- _____ *FES 365 – Issues in Natural Resources Conservation (3)
- _____ *FW 325 – Global Crises in Resource Ecology (3)
- _____ *GEOG 300 – Sustainability for the Common Good (3)
- _____ *GEOG 330 – Geography International Development & Globalization (3)
- _____ *HORT/ENT 331 – Pollinators in Peril (3)
- _____ *SUS 350 – Sustainable Communities (4)
- _____ *Z 349 – Biodiversity: Causes, Consequences & Conservation (3)

Science, Technology and Society

(Select 1 of the following courses)

- _____ *ANS 315 – Contentious Social Issues in Animal Agriculture (3)
- _____ *ANS/FES/SOC 485 – Consensus and Natural Resources (3)
- _____ *BI/Z 348 – Human Ecology (3)
- _____ *BOT 324 – Fungi in Society (3)
- _____ *CH 374 – Technology, Energy, and Risk (3)
- _____ *ENGR 350 – Sustainable Engineering (3)
- _____ *ENGR 363 – Energy Matters (3)
- _____ *ENSC 479 – Environmental Case Studies (3)
- _____ *FES/TOX 435 – Genes and Chemicals in Agriculture: Value and Risk (3)
- _____ *FES 477 – Agroforestry (3)
- _____ *FST 421 – Food Law (3)
- _____ *FW/HSTS 470 – Ecology & History: Landscapes Columbia Basin (3)
- _____ *GEOG 300 – Sustainability for the Common Good (3)
- _____ *GEOG 340 – Introduction to Water Science and Policy (3)
- _____ *HORT 330/ENT 300 – Plagues, Pests, and Politics (3)
- _____ *HST 481 – Environmental History of the United States (4)
- _____ *HSTS 421 – Technology & Change (4)
- _____ *NUTR 312 – Issues in Nutrition & Health (3)
- _____ *PH 313 – Energy Alternatives (3)
- _____ *PHL 325 – Scientific Reasoning (4)
- _____ *PS 476 – Science & Politics (4)

- _____ *SOIL 395 – World Soil Resources (3)
- _____ *SUS 304 – Sustainability Assessment (4)
- _____ *Z 348 – Human Ecology (3)

Total Units (need 180) _____

Upper Div. Units (need 60) _____

Research Track (Optional)

- _____ HORT 406 – Projects: Data Presentations (1)
- _____ MTH 251 – Differential Calculus (4)
- _____ MTH 252 – Integral Calculus (4)
- _____ ST 351 – Introduction to Statistical Methods (4)

(Select 3 of the following courses)

- _____ BB 350 – Elementary Biochemistry (4)
- _____ BI 370 – Ecology (3)
- _____ BOT 341 – Plant Ecology (4)
- _____ CH 331 – Organic Chemistry (4)
- _____ CH 332 – Organic Chemistry (4)
- _____ CH 337 – Organic Chemistry Lab (4)
- _____ MB 230 – Introductory Microbiology (4)
- _____ PH 201 – General Physics (5)
- _____ PH 202 – General Physics (5)

Grade Requirements

Students pursuing a major or minor in horticulture are required to receive a grade of C– or better in all HORT (horticulture) and PBG (plant breeding and genetics) courses that are required for completion of their major and option, or minor. If a grade below C– is received in a HORT or PBG course required for their major and option, or minor, a student will need to retake the course and receive a grade of C– or better. If the grade below a C– was received for a course that is part of a group of courses where the student can select which courses to take (i.e., they do not need to take all of the courses, just a specified number of courses or credits) then it would be acceptable for the student to substitute a course for the one that they had received a grade below a C–. For example, in most of our options, a student needs to complete three of four plant identification courses. If a student received a grade lower than a C– in one of the classes, they could either retake the same course or complete the other three courses with a grade of C– or better.

* = Meets bacc core requirement