

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

Name: \_\_\_\_\_

ID: \_\_\_\_\_

Entering Status: \_\_\_\_\_

Option: **Ecological & 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 – Principles of Biology (4)

\_\_\_\_\_ BI 212 – Principles of Biology (4)

\_\_\_\_\_ BI 213 – 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 3 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 480 – Case Studies in Cropping Systems Management (4)

##### Advanced Horticultural Science

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

\_\_\_\_\_ HORT 495 – Horticultural Management Plans (3)

\_\_\_\_\_ PBG 430 – Plant Genetics (3)

##### Horticultural Production Electives

\_\_\_\_\_ HORT 360 – Irrigation/Drainage (4)

(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)

##### 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)

\_\_\_\_\_ CROP/SOIL 325 – Ag. & Envir. Predicaments: Case Study Approach (3)

\_\_\_\_\_ ENT 322 – Honey Bee Biology & Beekeeping (3)

\_\_\_\_\_ HORT 199, 299, 399, 499 – Special Topics in Agriculture (1-16)

\_\_\_\_\_ HORT 199 – Issues in Sustainable Agriculture (1)

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

\_\_\_\_\_ HORT 314 – Principles of Turfgrass Maintenance (4)

\_\_\_\_\_ HORT 405 – Pesticide Application Training (4)

\_\_\_\_\_ HORT/ENT 444 – Insect Agroecology (3)

\_\_\_\_\_ HORT 463 – Seed Biology (3) alt. year

\_\_\_\_\_ HORT 485 – Advanced Permaculture Design (3)

\_\_\_\_\_ HORT 499 – Advanced Organic Farming (2)

\_\_\_\_\_ HORT 499 – Organic & 3<sup>rd</sup> Party Certification (2)

\_\_\_\_\_ PBG 441 – Plant Tissue Culture (4)

\_\_\_\_\_ PBG 450 – Plant Breeding (4)

\_\_\_\_\_ SOIL 316 – Nutrient Cycling in Agroecosystems (4)

\_\_\_\_\_ 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 (4)
- \_\_\_\_\_ BA 260 – Introduction to Entrepreneurship (4)
- \_\_\_\_\_ BA 463 – Family Business Management (4)

**Government and Policy***(Select 1 of the following courses)*

- \_\_\_\_\_ AEC 250 – Introduction to Environmental Economics and Policy (3)
- \_\_\_\_\_ AEC 251 – Introduction to Agricultural & Food Economics (3)
- \_\_\_\_\_ AEC 253 – Environmental Law, Policy & Economics (4)
- \_\_\_\_\_ AGRI 411 – Introduction to Food Systems: Local to Global (3)
- \_\_\_\_\_ FES 492 – Ecosystem Services Ecology, Sociology, Policy (3)
- \_\_\_\_\_ NR 455 – Natural Resource Decision Making (4)
- \_\_\_\_\_ PS 201 – Introduction to US Government and Politics (4)
- \_\_\_\_\_ PS 205 – Introduction to International Relations (4)
- \_\_\_\_\_ PS 331 – State and Local Government and Politics (4)
- \_\_\_\_\_ PS 475 – Environmental Politics and Policy (4)
- \_\_\_\_\_ PS 477 – International Environmental Politics and Policy (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 (3)
- \_\_\_\_\_ 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/NR/RNG 477 – Agroforestry (3)
- \_\_\_\_\_ FST 421 – Food Law (3)
- \_\_\_\_\_ FW 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.